

Breakthrough on hydrogen power

(Page 165)



BUSINESS WEEK

A McGRAW-HILL PUBLICATION

FIFTY CENTS

NOV. 23, 1957



Secretary McElroy: His decisions determine how to overhaul U.S. defense (Government)

GS 67
E B POWER
UNIVERSITY MICROFILMS
313 N ZEE ST
ANN ARBOR MICH



Sensitive Princess Spends Sleepless Night



POOR PRINCESS! Because a dried pea had been placed under her stacked swansdown mattresses, morning found the legendary lass black, blue, and yawning. Of course, this test of her royal sensitivity wouldn't have worked with *foam rubber* mattresses made from Shell Chemical's newest latex . . .

Developed for the manufacture of high quality *foam rubber*—this synthetic rubber latex is produced in a new Shell plant, designed and built for this specific purpose. Here, the highest degree of specialization insures product uniformity and dependability.

Whether for fine furniture, automobile upholstery—or mattresses fit for royalty—use Shell's newest latex when you want superior *foam rubber*.

**Shell Chemical
Corporation**

*Chemical Partner of Industry
and Agriculture*

TORRANCE, CALIFORNIA



IN BUSINESS THIS WEEK November 23, 1957

GENERAL BUSINESS

	Page
BUSINESS OUTLOOK	39
WASHINGTON OUTLOOK	61
INTERNATIONAL OUTLOOK	139
PERSONAL BUSINESS	161
THE TREND	200
FIGURES OF THE WEEK	2
CHARTS OF THE WEEK	196
READERS REPORT	5

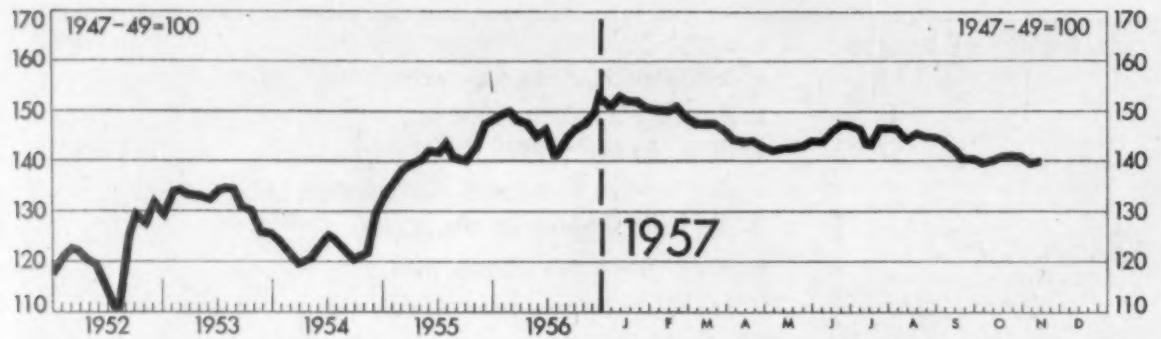
U.S. BUSINESS' WEEK OF TRANSITION

1. SHARPENING DEFENSE—MONEY AND PLANS	46
2. SWING TO EASIER MONEY	48
3. HOW MARKETS REACTED	49
4. OUT WHERE IT SHOWS—A BUSINESS SAG	50
5. MEN WHO CHANGED THE PLANS	52
6. EDUCATING FOR LONG RUN	54
CED TAKES JOB. It will make monetary study that Congress didn't	56
ARMY SATELLITE. The Navy's Vanguard has a U. S. rival now	56
IN BUSINESS. News about expected public sale of A&P stock, railroad curtailment and airline expansion of passenger routes, Asian flu vaccine	58

THE DEPARTMENTS

BUSINESS ABROAD:	Tata Bucks the Trend of India's Economy	128
	Split on European Free Trade. Results from British participation	133
	Wooing the British. Canada dispatches a trade mission to London	134
	In Business Abroad	137
FINANCE:	Rocks and Reefs of SEC Rules. On new securities issues	79
	Wall Street Talks	82
	Churches Go to Bond Market	84
GOVERNMENT:	In Washington	118
	Pentagon Feels the Impact of Its New Broom, Defense Secy. Neil McElroy	120
INDUSTRIES:	The Cars That Carry the Carriage Trade. Competition in the luxury car class	191
LABOR:	Mediators Brace for Stormy '58. Contract negotiations will be hot and heavy, and the stakes will be high	143
	Carpenters Give AFL-CIO New Headache. Congressional probe in big craft union's affairs could affect labor's unity	147
	Supreme Court Rules Out Union Bias. Says unions must represent all employees fairly and without discrimination	148
	Labor's Press. Reports on state mergers, political successes, problems of plant migration	150
	In Labor	153
MANAGEMENT:	The Electronics Frontier Offers Rich Rewards—But Not to All	176
	1. This Little Company Grew Bigger: United Control	
	2. Rival for the Giants: Litton Industries	
	3. Learning by Mistakes: Hycon Mfg.	
	In Management	189
MARKETING:	Supermart Where the Customers Stay Home. Hazan's in Los Angeles appeals to upper-crust trade with an order-by-phone, quick delivery setup	66
	Downtown Loads Its Heavy Guns	71
	In Marketing	77
THE MARKETS:	Mutuals Cling to Their Charms. Despite declining net assets, sales stay high	155
PRODUCTION:	A Monster That Spawns Handsome Profits. King crabs are ugly but tasty	90
	Race for Speed Puts New Shapes in Sky—new jets and turboprops, giant 'copters, convertiplanes	98
	New Products	104
REGIONS:	Change Comes to Zion's Empire as Mormons streamline their business holdings	108
RESEARCH:	H-Bomb's Harness Nearly Ready. U. S. drive for hydrogen power is in sight of payoff stage	165
	Sputniks—But no Tranquillizers. How Russian science stacks up	171

FIGURES OF THE WEEK



BUSINESS WEEK INDEX (chart)

1946 Average	Year Ago	Month Ago	Week Ago	Latest Week
91.6	149.5	141.5	140.2	*140.5

PRODUCTION

Steel ingot (thous. of tons).....	1,281	2,463	2,052	↑1,990	1,965
Automobiles and trucks.....	62,880	167,410	96,341	↑167,880	175,996
Engineering const. awards (Eng. News-Rec. 4-wk daily av. in thous.).....	\$17,083	\$59,070	\$55,381	\$54,400	\$53,213
Electric power (millions of kilowatt-hours).....	4,238	11,589	11,684	11,914	11,953
Crude oil and condensate (daily av., thous. of bbls.).....	4,751	7,165	6,747	6,796	6,831
Bituminous coal (daily av., thous. of tons).....	1,745	1,700	1,652	11,637	1,567
Paperboard (tons).....	167,269	278,966	308,059	287,763	290,265

TRADE

Carloadings: miscellaneous and l.c.l. (daily av., thous. of cars).....	82	73	69	68	65
Carloadings: all others (daily av., thous. of cars).....	53	56	55	51	47
Department store sales index (1947-49 = 100, not seasonally adjusted).....	90	137	132	122	136
Business failures (Dun & Bradstreet, number).....	22	240	258	266	306

PRICES

Spot commodities, daily index (Moody's, Dec. 31, 1931 = 100).....	311.9	424.4	388.0	384.6	386.6
Industrial raw materials, daily index (BLS, 1947-49 = 100).....	↑173.2	100.6	86.3	84.9	84.8
Foodstuffs, daily index (BLS, 1947-49 = 100).....	↑175.4	82.0	82.6	83.2	84.2
Print cloth (spot and nearby, yd.).....	17.5¢	19.2¢	17.6¢	17.4¢	17.5¢
Finished steel, index (BLS, 1947-49 = 100).....	↑176.4	168.8	181.7	181.7	181.7
Scrap steel composite (Iron Age, ton).....	\$20.27	\$61.33	\$35.33	\$33.00	\$32.67
Copper (electrolytic, delivered price, E & M, lb.).....	14.045¢	36.000¢	26.770¢	26.900¢	26.860¢
Wheat (No. 2, hard and dark hard winter, Kansas City, bu.).....	\$1.97	\$2.36	\$2.14	\$2.18	\$2.21
Cotton, daily price (middling, 1 in., 14 designated markets, lb.).....	**30.56¢	33.22¢	33.58¢	34.12¢	34.55¢
Wool tops (Boston, lb.).....	\$1.51	\$2.03	\$2.00	\$1.90	\$1.90

FINANCE

500 stocks composite, price index (S&P's, 1941-43 = 10).....	17.08	45.26	39.97	40.04	39.92
Medium grade corporate bond yield (Baa issues, Moody's).....	3.05%	4.24%	5.00%	5.10%	5.09%
Prime commercial paper, 4 to 6 months, N. Y. City (prevailing rate).....	3/4-1%	3% %	4% %	4% %	4% %

BANKING (Millions of Dollars)

Demand deposits adjusted, reporting member banks.....	↑↑45,820	55,882	54,744	54,800	55,025
Total loans and investments, reporting member banks.....	↑↑71,916	85,630	87,292	86,277	86,103
Commercial and agricultural loans, reporting member banks.....	↑↑19,299	30,439	32,103	31,751	32,336
U. S. gov't guaranteed obligations held, reporting member banks.....	↑↑49,879	25,599	25,346	24,959	24,785
Total federal reserve credit outstanding.....	23,888	25,954	25,451	25,225	25,424

MONTHLY FIGURES OF THE WEEK

Housing starts (in thousands).....	October	55.9	93.6	90.0	95.0
Personal income (seasonally adjusted, in billions).....	October	\$178.0	\$334.1	\$346.6	\$345.6
Farm income (seasonally adjusted, in billions).....	October	\$16.9	\$16.4	\$15.3	\$15.3
Bank debits (in millions).....	October	↑↑\$85,577	\$193,140	\$189,297	\$204,178
Cost of living (U. S. Dept of Labor BLS, 1947-49 = 100).....	October	83.4	117.7	121.1	121.1

*Preliminary, week ended November 16, 1957.

† Estimate.

** Ten designated markets, middling 1/2 in.

§ Date for 'Latest Week' on each series on request.

† Revised.

THE PICTURES—George Bettridge—108 (bot.); Grant Compton—45 (cen.), 54 (lt.), 191 (top & bot.); Fairey Aviation Co.—98 (bot.); Maurice Feldman—104 (top); Firestone News Service—104 (bot.); Joern Gerdts—108 (top), 109, 110; Robert Goodman—90, 91, 92, 94; John R. Hamilton-Globe Photos—66, 67, 68; I.N.P.—53, 121 (top lt.); Herb Kratochvil—191 (second & fourth down); Lockheed Aircraft—98 (top), 103 (bot.); Leonard Nadel—185; Robert Phillips—143; Ernest Rostovsky—183; Sovfoto—103 (second down); Joan Sydlow—191 (cen.); Tata Sons, Ltd.—128, 129, 130, 133; United Control Corp.—177 (top); U.P.—45 (top & bot.); 46 (lt. & rt.), 47, 52, 103 (top), 121 (bot. rt.); U. S. Navy—120; W. W.—cover, 46 (cen.), 54 (rt.), 103 (third down), 121 (top rt. & bot. lt.), 123, 124.

B.F.Goodrich report:



Hurrying upstairs with a 1000-foot fire extinguisher

B. F. Goodrich improvements in rubber brought extra benefits

Problem: When water has to go high at a fire, the firemen have to lug hose up steep, narrow ladders. And they have to do it in seconds.

Fire hose used to be heavy, bulky. It took too much strength and time to lift and carry, wasted these precious seconds that often determine whether or not lives and property can be saved.

What was done: B.F.Goodrich engineers set out to design a lighter hose, one that could get into action faster. They used a new kind of cord in the woven jacket that increases hose

strength 50%—and does it with a 22% saving in weight, and without loss of water capacity.

Extra benefits: Today, fire trucks carry a third more hose, and firemen can get it up ladders to the fire much faster because B.F.Goodrich found this new way to make fire hose lighter, more flexible, without sacrificing strength.

More water can get at fires faster, saving property and sometimes even lives. **Why buy B.F.Goodrich:** This new fire hose is a typical example of what often happens when B.F.Goodrich en-

gineers set out to improve a "standard" product. That's why it pays to ask your distributor what new developments in rubber B.F.Goodrich has made lately in any products you may buy. *B.F.Goodrich Industrial Products Co., Dept. M-216, Akron 18, Ohio.*

B.F.Goodrich
INDUSTRIAL PRODUCTS



instant answer . . . immediate proof

THE CALCULATOR THAT PRINTS

Executive decisions are often lengthily and arduously considered . . . but when an instantaneous and accurate answer is needed — you can count on The "99" Calculator That Prints to supply it.

Every step of every problem is **proved** as it is printed on easy-to-read SIMPLA-TAPE . . . no double-check reruns necessary. Automatic multiplication and division, lightning-fast addition or subtraction . . . with automatic Credit Balance.

Did you know that you can buy a "99" Calculator for less than \$6.50 a week? Call your local Remington Rand Office or write for folder C1096, Room 2103, 315 Fourth Avenue, New York 10, N.Y.

Remington Rand
DIVISION OF SPERRY RAND CORPORATION

BUSINESS WEEK

EDITOR & PUBLISHER Elliott V. Bell
MANAGING EDITOR Kenneth Kramer

ASSISTANT MANAGING EDITOR Robert B. Colborn
ASSOCIATE MANAGING EDITORS John L. Cobbs, Peter French, Eugene Miller
SENIOR EDITORS
Clark R. Pace, Howard Whidden

DEPARTMENTS

Business Outlook: Clark R. Pace, *Editor*; Sam I. Nakagawa
Economics: Leonard Silk, *Editor*
Finance: William McKee Gillingham, *Editor*; Albert C. Lasher
Foreign: Howard Whidden, *Editor*; Sol Sanders, Paul Finney
Industrial Production: Theodore B. Merrill, Jr., *Editor*; C. Peter Buckley, William L. Smith
Labor: Edward T. Townsend
Management: Lee Geist, *Editor*; Edward McCreary
Marketing: Richard L. Waddell, *Editor*; Cora Carter, Jack E. Patterson
Money & Credit: M. J. Rossant, *Editor*
Personal Business: Joseph L. Wilsee, Marilyn Holmes
Regions: Werner Renberg, *Editor*
Research: Jane H. Cutaia, *Editor*
Statistics: Elsa Denno
News Editors: T. B. Crane (*Senior News Editor*), Jeanne A. Bernhardt, Robert F. Deed, John A. Dierdorff, Lawrence H. Odell, Doris I. White
Staff Writers: John H. Maughan
Editorial Assistants: Mary T. Beckerle, Edward J. Burgess, Jr., Jean Drummond, John Hudor, Kathleen Kundel, Irwin Lainoff, Ann Woods
Illustration: Richard A. Wolters, *Editor*; Robert Isear, *Pictures*; Grant Compton, Jack H. Fuller, Herbert F. Kratovil, Jomary Mosley, Arthur Richter, Joan Sydow
Library: Jane G. Racza, *Librarian*
Assistant to the Editor and Publisher: Gerald W. Schroder

McGRAW-HILL ECONOMICS STAFF

Dexter M. Keezer, *Director*; Theodore C. Boyden, William H. Chartener, Douglas Greenwald, Robert P. Ulin

U.S. & CANADIAN NEWS SERVICE

Atlanta Bureau: Glenn McCullough, *Manager*, Frances Ridgway
Boston Bureau: Brenton Welling, Jr., *Manager*; Lucie Adam
Chicago Bureau: Merlin H. Mickel, *Manager*, Franklin N. Karmatz, Joanne Sponsler
Cleveland Bureau: John K. Fockler, *Manager*; Michelle Perry
Detroit Bureau: William Kroger, *Manager*
Houston Bureau: Normand DuBeau, *Manager*
Los Angeles Bureau: Thomas M. Self, *Manager*; James P. Roscow, Margaret W. Hayes
Milwaukee Bureau: Keith G. Feltyn, *Manager*; Kathleen C. Horan
Philadelphia Bureau: W. B. Whitchard, Jr., *Manager*; Esther A. Schultz
Pittsburgh Bureau: Richard N. Larkin, *Manager*; George W. New, Elinore S. Thomas
San Francisco Bureau: Richard Lamb, *Manager*; Margaret J. Scandling
Toronto Bureau: John D. Harbron, *Manager*; Jean Ross-Skinner
Washington Bureau: George B. Bryant, Jr., *Manager*; Alan E. Adams, Glen Bayless, Roy Calvin, Ernest Conine, John C. L. Donaldson, Jay Flocken, Boyd France, Sam Justice, Arthur J. Kraft, Donald O. Loomis, Gladys Montgomery, Arthur L. Moore, Seth Payne, Morton A. Reichek, V. Craig Richter, Caroline Robertson, Vincent Smith

McGRAW-HILL NEWS SERVICE

Manager: John Wilhelm; Beirut: O. M. Marashian; Bonn: Morrie Helitzer, Thomas Berndt, Silke Brueckler; London: William J. Coughlin, John Tunstall, Robert Gibson, Derek Barlow; Melbourne: Alicia Grobisch; Mexico City: Jack Kearney; Paris: Robert E. Farrell, Helen Avati; Rio de Janeiro: Peter Weaver; Tokyo: Dan Kurzman; Atlanta: Charles T. Dixon, Jr.; Cleveland: William G. Meldrum; Dallas: Kemp Anderson, Jr., Mary Lorraine Smith; Detroit: Donald MacDonald, Nancy Ann Moore; Los Angeles: John K. Shinn, Michael J. Murphy; San Francisco: Margaret Ralston, Jeness Keene, Sue Johnson

ASSOCIATE PUBLISHER Bayard E. Sawyer
ADVERTISING MANAGER John M. Holden
BUSINESS MANAGER Richard E. McGraw



BUSINESS WEEK • NOVEMBER 23, 1957 • NUMBER 1473

(with which are combined *The Annalist* and *The Magazine of Business*) Published weekly by McGraw-Hill Publishing Company, Inc., James H. McGraw (1860-1948), Founder. PUBLICATION OFFICE: 99-129 North Broadway, Albany 1, N. Y. See panel below for directions regarding subscriptions or change of address. EXECUTIVE, EDITORIAL, CIRCULATION and ADVERTISING OFFICES: McGraw-Hill Building, 330 West 42nd Street, N. Y. 36, N. Y. Donald C. McGraw, President; Joseph A. Gerard, Executive Vice President; L. Keith Goodrich, Vice President and Treasurer; John J. Cooke, Secretary; Nelson Bond, Executive Vice President, Publications Division; Ralph B. Smith, Vice President and Editorial Director; Joseph H. Allen, Vice President and Director of Advertising Sales; A. R. Venezian, Vice President and Circulation Coordinator. Subscriptions to *Business Week* are solicited only from management men in business and industry. POSITION AND COMPANY CONNECTION MUST BE INDICATED ON SUBSCRIPTION ORDERS. SEND TO ADDRESS SHOWN IN BOX BELOW. United States subscription rates for individuals in the field of the publication, \$6 per year; Canada, \$7; other Western Hemisphere countries and the Philippines, \$20; all other countries, \$25. Single copies, 50¢. Second class mail privileges authorized at Albany, N. Y. Printed in U. S. A. Title registered in U. S. Patent Office. © Copyright 1957 by McGraw-Hill Publishing Co., Inc. All rights reserved.

SUBSCRIPTIONS: Send subscription correspondence and change of address to Subscription Manager, BUSINESS WEEK, 330 W. 42nd Street, N. Y. 36, N. Y. Subscribers should notify publisher promptly of any change of address, giving old as well as new address, and including postal zone number, if any. If possible, enclose an address label from a recent issue of the magazine. Please allow one month for change to become effective.

POSTMASTER . . . Please send form 3579 to *Business Week*, 330 W. 42nd Street, N. Y. 36, N. Y.

BUSINESS WEEK • Nov. 23, 1957

READERS REPORT

Facing Up to Sputnik

Dear Sir:

Congratulations on your editorial, *The Trend* [BW—Oct. 26 '57, p204]. You say well what needs to be said, repeatedly, until Washington begins to show some evidence of treating the American people as if they were grown up, and able to face up to the very serious facts which face us. This is not a joke; it does not call for smart public relations. We need to face reality, think straight, work hard.

ARTHUR N. TURNER

YALE UNIVERSITY
INSTITUTE OF HUMAN RELATIONS
NEW HAVEN, CONN.

Well Done

Dear Sir:

Re: *Canada Fights Economic Pinch* [BW—Oct. 19 '57, p59] . . . a very sound and able assessment of the current business situation in Canada.

ARTHUR J. R. SMITH
MONTREAL, CANADA

Dear Sir:

. . . you have captured the economic atmosphere in Canada at the present time very well indeed.

HERBERT H. LANK
OFFICE OF THE PRESIDENT
DU PONT CO. OF CANADA LTD.
MONTREAL, CANADA

Scrap Iron

Dear Sir:

In your article, *For Scrap, a More Sober Future* [BW—Oct. 26 '57, p114], you conclude rightly that the scrap trade is "a group that's hardly likely to sit by and wait for its own funeral."

. . . The scrap industry is a bit groggy, but this is not unusual considering that its major customers have almost completely withdrawn from the market and that scrap prices have declined one-half in 10 months.

But the gyrations in price are not primarily of the scrap industry's making. If consumers bought on a reasonably systematic basis (as several large ones do) consumers would be spared the peaks they dislike and scrap dealers the valleys they cannot afford. Scrap of a better quality than was available at the peak of the market last December is going begging today at half the price.

The scrap industry did not "sand-

SPEED QUEEN

Royal Star

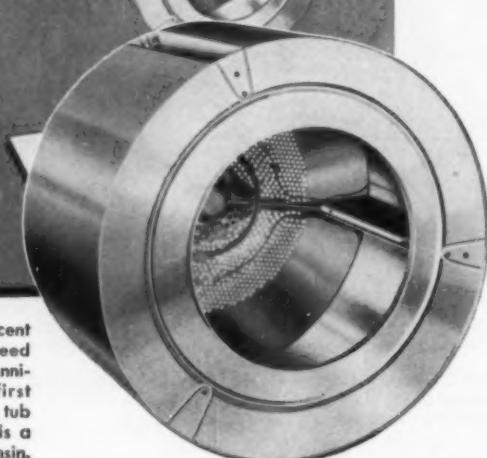


Bowl-shaped
STAINLESS STEEL TUB
Only Speed Queen has it!



150-160 mm. - 50-60 mm. -

New
**STAINLESS STEEL
DRYER DRUM**



McGraw-Hill is a registered trademark of The McGraw-Hill Companies, Inc. and its related companies. All other trademarks are the property of their respective owners. Many of the products made available through the McGraw-Hill Web site are available at the McGraw-Hill Bookstore. Visit www.mcgraw-hill.com for more information. © 2001 The McGraw-Hill Companies, Inc. All rights reserved. ISBN 0-07-249932-2
Matching the reader to books and books to readers is the new McGraw-Hill Reading Diagnose. It's the first device to analyze the many characteristics of a reader and his or her books. Now you can see your students' strengths and weaknesses, match them to books, and guide them to success. See the accompanying Read! First! for your free trial. Call toll-free 1-800-338-3200. For information, write Diane Quinn, a Division of The McGraw-Hill Companies, 1221 Avenue of the Americas, New York, NY 10020.

The above advertisement, reproduced from a recent issue of the Saturday Evening Post, kicked off Speed Queen's year-long observance of their Golden Anniversary and introduced the "Royal Pair"—first automatic washer and dryer with a stainless steel tub and a stainless steel dry drum. Speed Queen is a division of McGraw-Edison Company, Ripon, Wisconsin.

Steps

REPUBLIC



World's Widest Range of Standard Steels

Out with Republic Stainless

Utilizes the plus-values of Republic ENDURO® Stainless Steel to gain a competitive edge

Speed Queen, first to use a stainless steel bowl-shaped tub in an automatic washer, now has designed an automatic dryer with a stainless steel drum.

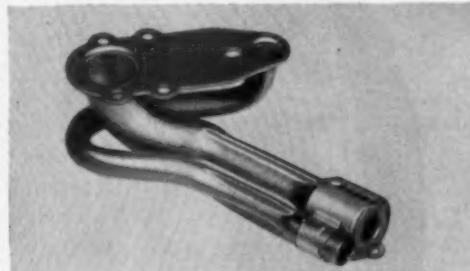
Fabricated from Republic ENDURO® Stainless Steel, the tub and drum in Speed Queen's Royal Pair provide maximum protection for clothes in the washing and drying operation.

Stainless offers the greatest resistance to rust and corrosion of any commercial metal. And because ENDURO is solid stainless steel, there is no surface to wear away. There's never any danger of flaking, chipping, peeling or cracking. ENDURO's smooth, hard surface protects the finest and sheerest of fabrics.

The inertness of stainless is another plus-value that Speed Queen has built into its new washer and dryer. It is neither affected by nor does it react with dyes, bleaches, soaps or detergents. That is one reason why textile manufacturers and commercial laundries have been using ENDURO equipment for years.

What about your product that needs to gain a competitive edge? Use Stainless to obtain freedom of design. Its extremely high strength-to-weight ratio permits use of thinner, lighter sections to reduce weight and bulk. Use Stainless for trim and brightwork. It has the strength to withstand the abuse of every day use. Use Stainless for functional parts. Strength, heat-resistance and corrosion-resistance make it the perfect metal for any application involving heat or cold. Use ENDURO to give your product sales appeal.

Republic metallurgists and engineers are available to assist you in selection, application and processing of stainless. No obligation for their services, just mail the coupon. Or contact your Republic ENDURO Stainless Steel Distributor.



RANGE BURNER MANUFACTURER STEPS OUT with Republic ELECTRUNITE® Welded Steel Tubing. Harper-Wyman Company uses it in forming lightweight, easy-to-clean venturi burner tubes. The company subjects ELECTRUNITE to a hairpin bend of 1 1/4-diameter radius, then a four-way crimp, followed by punching, notching and welding. Uniform, predictable ductility avoids stretch and collapse as tubing is severely bent and formed. Close tolerances of O.D. and I.D. avoid die and mandrel troubles. Our engineers will help you design ELECTRUNITE into your product to speed production, cut costs and improve performance. Mail the coupon for facts.



SOFT-DRINK DISPENSER MANUFACTURER STEPS OUT with Republic Electro Paintlok®. Ideal Dispenser Company uses Electro Paintlok for cabinets to provide an excellent paint-adhering surface even after severe forming operations. According to Ideal, "hot room" tests have proved it the most economical base material under temperature and humidity variations found in any part of the world. Sheets are shipped from the mill in prime condition for painting. For some products, only the final finish need be applied for full protection and attractive appearance. Send coupon for full details.

STEEL

and Steel Products

REPUBLIC STEEL CORPORATION

DEPT. C-4788
3136 EAST 45TH STREET • CLEVELAND 27, OHIO

- Have a Stainless Metallurgist call.
Send more information on:
 ENDURO Stainless Steel Electro Paintlok
 ELECTRUNITE Steel Tubing

Name _____ Title _____

Company _____

Address _____

City _____ Zone _____ State _____



Just what is cellulose?



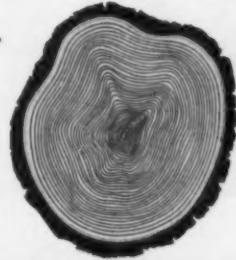
**You eat it, wear it, ride on it, wash with it
—do you know what it is?**

Cellulose is the "skeleton" of all the plant life in the world, including trees.

And of all the "wonder" chemicals, none is so versatile—and low cost—

as cellulose. (Rayonier's highest quality celluloses cost only about 10¢ a pound.)

What do they do with it? Many, many things. Big world industries convert it into some 500 products. Among them: photo films and papers, sausage casings, sponges, fabrics, cellophane, plastics, rayon hi-test tire cord, food thickeners, lacquers and detergents.



Will the supply last? Cellulose is Nature's inexhaustible resource (she grows more wood annually in North America than is being harvested). Today Rayonier is farming some 2,000,000 forest acres in the U.S.A. and Canada. And at our Canadian and U.S. mills we can produce upwards of 1,830,000,000 pounds of cellulose a year, with each ounce scientifically tailored to its end use.



Only 500 uses? Rayonier is confident there are many more. For, supported as we are by ample raw materials, advanced research and strong finances, plus a capable work force of 6800 skilled hands, Rayonier sees new, important uses for cellulose in world markets—uses that may entirely replace some of today's popular products and offer, for your good living, better products—at very attractive prices.

RAYONIER



NATURAL RESOURCES CHEMISTRY

Rayonier Incorporated, Executive and General Sales Offices
161 East 42nd Street, N. Y. 17, N. Y.



Reach them wherever they are ... with pagemaster®

The PAGEMASTER Selective radio paging system by Stromberg-Carlson allows your key people complete freedom of movement. Yet no matter where they are in your establishment or its environs, you can contact them *instantly, individually*.

Here's how the system works: your key people are equipped with transistorized pocket-size receivers. A small, smartly-styled "encoder" is located next to your switchboard receptionist, or other operating point. A compact transmitter and transmitting antenna are installed in a convenient place elsewhere on your premises.

When you need to reach any of these people who may be away from their desks, the operator sets the encoder dials and flips a switch. It takes just a few seconds. Instantly the receiver

of the person you want—and *only* his—responds with a pleasant, but noticeable signal. He simply picks up the nearest telephone and reports. Each page repeats automatically every 20 seconds until the call is answered.

You can have a PAGEMASTER system to meet your specific requirements. The system grows with your organization—receivers can be added without additional installation costs.

For complete information, contact the PAGEMASTER distributor listed in your telephone book under "Calling and Signaling Systems," or write to us at 200 Carlson Road.



STROMBERG-CARLSON
A DIVISION OF GENERAL DYNAMICS CORPORATION

Pagemaster Sales • Rochester 3, N.Y.



bag" the steel industry by its "insistence on unfettered exports." The scrap industry's position on exports has been simply to have the same principle apply to scrap that is applied to exports of iron and steel.

. . . The scrap industry is confident that, with steelmakers increasingly cost conscious, the availability of scrap at a price lower than the cost of making pig iron is an economic fact of life that cannot be evaded. . . .

The scrap industry is the only major supplier to the steel industry that is non-captive; it prizes its position and will not let it go by default.

EDWIN C. BARRINGER
EXECUTIVE VICE-PRESIDENT
INSTITUTE OF SCRAP IRON & STEEL,
INC.
WASHINGTON, D. C.

An Oriental Favorite

Dear Sir:

I have just returned from the Far East to find, on my desk, several copies of the article, Battle of the Bottlers Overseas [BW—Jun. 15'57, p131].

This makes interesting reading but, through omission, leaves a mistaken impression about Bireley's position in major Far East volume markets.

The article would have been more interesting and accurate had it stated:

"Bireley's" is by far the No. 1 seller in Japan, No. 1 in Thailand . . . enjoys large volume in Saigon and is the only American brand being bottled in South Vietnam . . . and holds the No. 1 spot in Okinawa. . . .

Bireley's Orange Drink has particular appeal to the Far East trade because it is non-carbonated, contains no artificial preservatives, is flash pasteurized, bottled hot and each bottle is vacuum packed.

MARTIN A. COLLISON
EXPORT FRANCHISE MANAGER
BIRELEY'S
DIVISION OF GENERAL FOODS CORP.
HOLLYWOOD, CALIF.

Not Average

Dear Sir:

Your article At Top, It's All Work, No Play [BW—Aug. 24'57, p45] is amazing in its statistical imagination. You take 335 presidents who claim they do nothing but work and sleep, and depict them as average when there are approximately 4-million businesses in the country. Hard work for long peri-



Easy going here—but the "roadblocks" lay ahead.

WORLD'S LONGEST PIPELINE DEFEATS STUBBORN NATURE

Pushing against a variety of grim natural obstacles, pipeliners are finishing Phase No. 1 of the world's longest gas pipeline. When completed, it will span Canada from the Alberta-Saskatchewan border to Montreal, Quebec—2300 miles.

Through the flat or rolling country, trenching for the line was easy. But east of Winnipeg, the picture changed rapidly. Here are some of the world's oldest and toughest rock formations, often concealed under treacherous muskeg. Towering granite cliffs throw a stubborn barrier against pipeline progress.

Gardner-Denver equipment is helping the pipeline to push forward—in record time. Gardner-Denver "TWINDRILS,"® "Quadrils"® and hand-held drills, powered by dependable Gardner-Denver rotary air compressors, are making quick work of blast hole drilling.

Because Gardner-Denver rock drills, compressors and air tools are chosen for so many important projects, this company has attained a position of quality leadership in the world's basic industries. *Gardner-Denver Company, Quincy, Illinois.*

* Trade-Mark



On the Trans-Canada line Gardner-Denver "TWINDRIL," powered by Gardner-Denver 600 rotary air compressor, drills a pair of blast holes in solid rock every few minutes.



ENGINEERING FORESIGHT—PROVED ON THE JOB
IN GENERAL INDUSTRY, CONSTRUCTION, PETROLEUM AND MINING

GARDNER - DENVER

In Canada: Gardner-Denver Company (Canada) Ltd., Toronto



Container salesman or packaging engineer

FORT WAYNE PROVIDES EITHER—OR BOTH

Our salesmen know corrugated containers and service to shippers. They're the best. And when you want to talk technical, they're backed by specialists who talk your language.

You can call on an expert, a professional Fort Wayne packaging engineer who works with you and your engineers, applies scientific principles and modern packaging techniques, produces authoritative answers to your container questions.

A salesman for service, a professional packaging engineer for technical help—you command either or both with a call to Fort Wayne.

Fort Wayne

CORRUGATED
PAPER COMPANY

GENERAL OFFICES
FORT WAYNE 1, INDIANA

A copy of the company's latest financial report may be obtained by writing to Harold M. Treen, President, Fort Wayne Corrugated Paper Company, Fort Wayne 1, Indiana.

ods is often necessary in a job, but it is sacrilegious to make work an objective itself, which your fanatics have done. I know many men who are presidents, including myself, who make it their job to diversify their interests, and who are thus better presidents. These are not average presidents in your article. They are escapists, egotists, some must have shrewish wives, and some must be so insecure they sleep on their desks.

ALBERT N. DRAKE
NEWARK, N. J.

- The sampling of company presidents was done on a scientific basis; they were chosen from different geographic areas, industries, and various age companies. As the story makes clear even within the sample, there are a considerable number of exceptions, and a number of extremes. But the over-all pattern was clear—and the "average" pictured—as one to whom the job takes precedence over other interests is reinforced by a number of other studies.

Joint Venture

Dear Sir:

... we are pleased . . . that under Business Abroad (BW—Oct. 19, '57, p125) you have published information under the heading Argentina Signs Up Houston Firm to Build Two Oil Pipelines.

... this project is a joint venture of the Fish Engineering Corp. and our company, North American Utility & Construction International Co. . . .

J. H. SLIOSBERG
NORTH AMERICAN UTILITY & CONSTRUCTION INTERNATIONAL CO.
NEW YORK, N. Y.

Home Hunting Grounds

Dear Sir:

You say in India Tots Up Its Lions [BW—Oct. 12 '57, p100] that it will be possible to hunt lion in India, but up to now I have always had the impression that the home grounds of the King of Beasts is Africa and Africa alone.

EMIL HANSEN
SAN FRANCISCO, CALIF.

• It's true that the lion is generally considered an African beast, but, as Webster's New International Dictionary—and our Bombay correspondent guarantees—the king of beasts "is a large carnivorous mammal of the cat family, inhabiting open or rocky wastes of Africa and southern Asia to Western India."



"Our salesmen telephone the home office twice a week"

HARRY RESNICK, President, Channel Master Corporation, Ellenville, New York

The 25 salesmen of Channel Master, TV antenna manufacturer, telephone the home office at least twice a week. In addition, the 500 distributors are encouraged to call *collect* at any time.

These calls provide speedy answers to many problems—delivery dates, technical information, price schedules, special promotions, advertising materials.

"By telephoning we know firsthand exactly what's going on," says Mr. Resnick. "This way we're able to keep ahead of our competition and changing markets.

"The telephone has developed and strengthened *personal* contacts for us. It's one reason why we were able to start from scratch and build a 15 million dollar business in 10 years."

Whatever you make, whatever you sell, planned use of the telephone can increase your business.

LONG DISTANCE RATES ARE LOW

Daytime Station-to-Station Calls

For example:	First 3 Minutes	Each Added Minute
Ellenville, N.Y., to Boston	75¢	20¢
Baltimore to Pittsburgh	80¢	20¢
Cleveland to Atlanta	\$1.30	35¢
Chicago to Denver	\$1.60	45¢
Los Angeles to New Orleans	\$2.20	55¢

Add 10% Federal Excise Tax

BELL TELEPHONE SYSTEM

Call by Number. It's Twice as Fast.



SEE HOW SOUTHERN NITROGEN USED ALCOA ALUMINUM TO BAN CORROSION

Southern Nitrogen Corporation, the South's newest nitrate fertilizer producer, recently completed a \$14-million plant near Savannah, Georgia. Nearly everywhere you look in this modern processing operation you see ALCOA® Aluminum (over 500,000 lbs) at work to combat corrosion. The photographs on these pages show a few of the many ways it is used there.

It's easy to see why Southern Nitrogen used so much ALCOA Aluminum. No other metal provides so many valuable benefits for such a wide variety of uses. And ALCOA, alone, can offer unparalleled technical assistance based on over 30 years' experience applying *all these aluminum advantages in the process industries:*

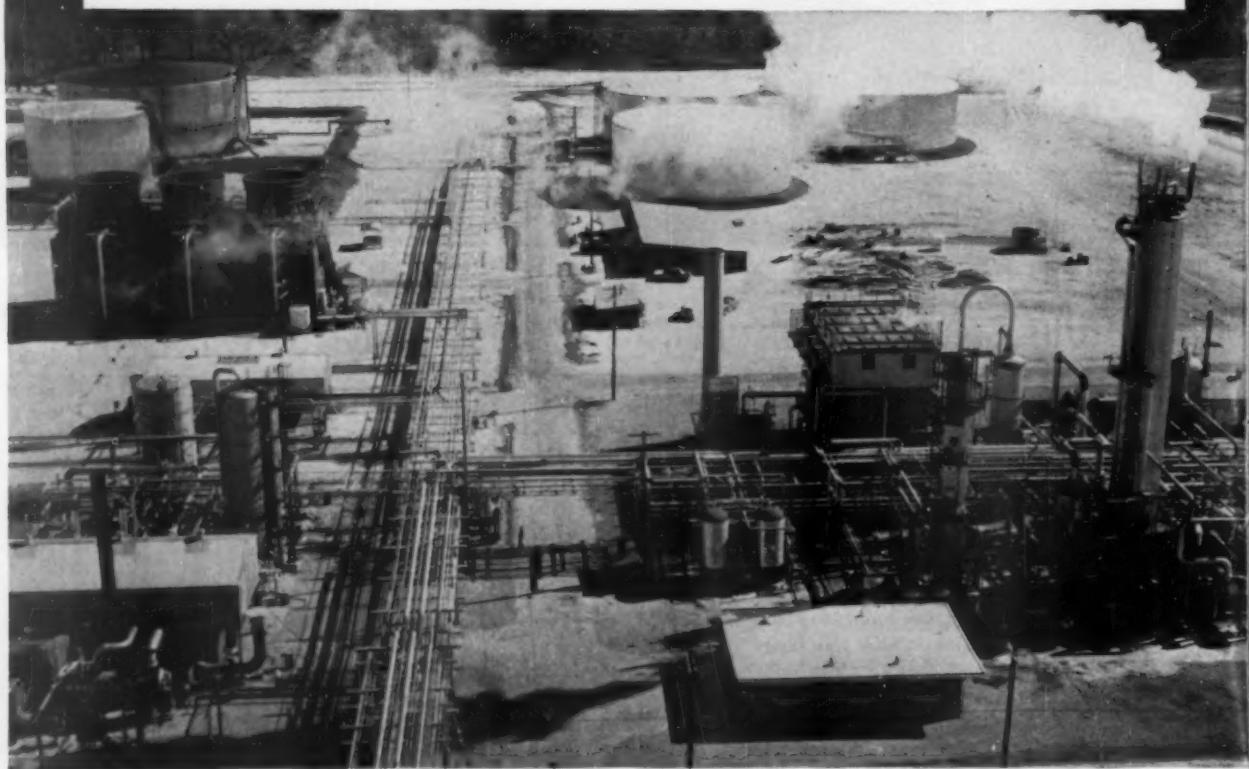
- *Excellent corrosion resistance* extends service life and reduces maintenance to a minimum.
- *Light weight—high strength* make handling easy and economical . . . often permit substantial construction economies.

- *High thermal conductivity* combined with corrosion resistance often makes aluminum the lowest cost material suitable for many demanding heat transfer operations.

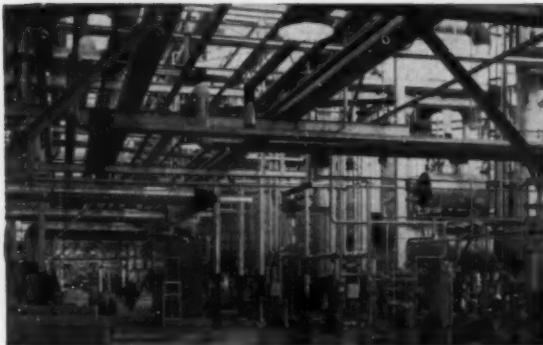
- *Nonsparking!* • *Nonmagnetic!* • *High reflectivity!*
- *Excellent electrical conductivity!*

The plant designers, The Girdler Company, made full use of all the advantages of working with ALCOA. They were able to employ the unequaled aluminum experience of ALCOA engineers . . . to help them choose the right aluminum alloys and fabrication methods for dependable, corrosion-free service in every part of the plant.

When you have a metal problem, call on ALCOA to find a sound, economical aluminum answer. Consult the nearby ALCOA sales office listed in the Yellow Pages of your telephone directory. Or outline your metal needs in a letter to ALUMINUM COMPANY OF AMERICA, 881-L Alcoa Building, Pittsburgh 19, Pa.



The Girdler Company designed this huge new nitrate fertilizer plant for Southern Nitrogen Corporation. The plant is designed for annual production of 120,450 tons of ammonium nitrate fertilizer, 91,250 tons of nitric acid, 10,950 tons of urea and 328,500 tons of fertilizer solutions.

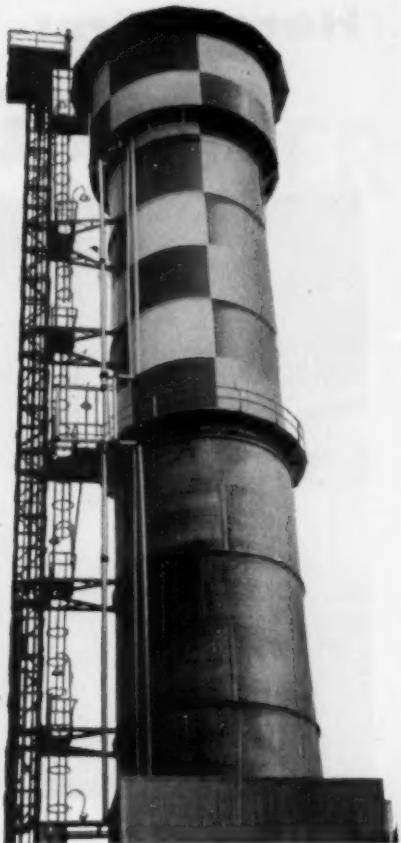


Plant employs thousands of feet of Alcoa Aluminum piping and conduit and is liberally painted with highly reflective aluminum coatings.

These 1,650,000 gallon storage tanks of Alcoa Aluminum alloy 5052 successfully fight the corrosive action of 85% ammonium nitrate. The tanks, 94 ft in diameter by 32 ft high, were built by Chicago Bridge & Iron Co.



Corrosion-resistant Alcoa Aluminum (alloy 6061-T6) was used throughout this prilling tower . . . to prolong service life without frequent, costly maintenance shutdowns. Built by The Steel Products Co., Inc., Savannah.



Alcoa Aluminum in these ammonia absorber coolers prevents corrosion while providing constantly high heat transfer efficiency. Coolers built by Henry Vogt Machine Co.

The superior corrosion resistance of Alcoa Aluminum in tank cars prolongs service life and prevents product contamination. Tanks built by Graver Tank & Mfg. Co., Inc. for Union Tank Car Co.



Lightweight gratings of Alcoa Aluminum are used in traffic areas throughout the Southern Nitrogen plant. They stand up under heavy traffic and easily withstand the attack of corrosive industrial atmospheres.



Alcoa Aluminum in electrical bus bar, conduit, fixtures and enclosures gives Southern Nitrogen effective protection from electrical breakdowns during prolonged exposure to corrosive industrial atmospheres.

 NEW!
"ALCOA THEATRE"
Exciting Adventure
Alternate Monday Evenings



Here's first-hand evidence that

PROVEN FIRE PROTECTION



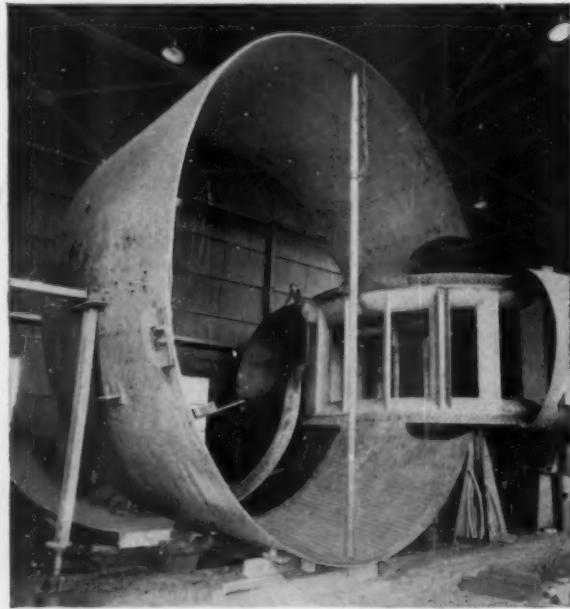
"We increased our coverage 50% and cut premiums 69% with 'Automatic' Sprinkler fire protection", reports the William B. Pollock Company of Youngstown, Ohio, one of the country's leading manufacturers of heavy equipment for blast furnaces, steel mills, chemical and petroleum plants.



"I landed an annual \$9,298 insurance saving by investing \$31,650 in 'Automatic' Sprinkler Systems for our plants in Spencer and Maquoketa, Iowa", indicates William H. Martindill, President of South Bend Tackle Company, Inc., outstanding producers of a complete line of quality fishing tackle equipment.



"Our insurance saving of \$1,482 annually was made possible by an investment of \$5,583 in 'Automatic' Sprinkler fire protection", says William Trumboro, Controller of Rocky Mountain Metal Products Company, Denver, Colorado, manufacturers of equipment for orthodontics and children's dentistry.



"An annual insurance saving of \$9,257 is what we now appreciate since we invested \$50,000 in an 'Automatic' Sprinkler fire protection system", reveals V. W. Coddington, President of Lakeside Bridge & Steel Company of Milwaukee, Wisconsin, fabricators of heavy structural steel and plate.

BY "AUTOMATIC" SPRINKLER

can save you money immediately!

By reducing insurance premiums an "Automatic" Sprinkler installation not only makes more extensive and complete insurance possible, but at the same time can frequently pay for itself in five to eight years—often sooner.

Most important of all, "Automatic" Sprinklers provide *proven* fire protection for buildings, contents, equipment, records—protection, too, against "business interruption".

Just as it has for the businesses pictured here, and thousands of others large and small in every industry, "Automatic" Sprinkler can offer you undivided responsibility on your complete fire

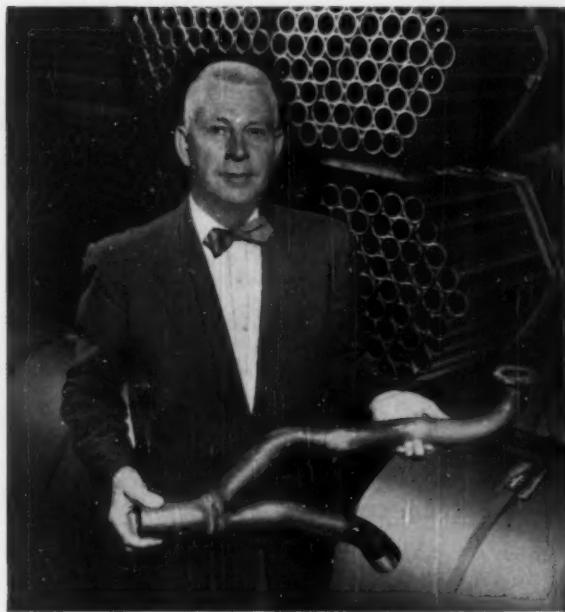
protection program. An "Automatic" fire protection sales engineer near you will be happy to help you with information on engineering, installation, inspection service and financing plans—without cost or obligation.



**WRITE FOR
NEW BROCHURE**
"How Investment
in fire protection
pays dividends".

"Automatic" Sprinkler **CORPORATION OF AMERICA**

YOUNGSTOWN, OHIO • OFFICES IN PRINCIPAL CITIES OF NORTH, CENTRAL AND SOUTH AMERICA



"A pipeline to an annual \$6,825 insurance saving! We now get it with our \$40,800 investment in 'Automatic' Sprinklers", points out Fred R. Dresher, President of Falls Steel Tube and Manufacturing Company, Newton Falls, Ohio, top producer of tubular parts for automotive exhaust and cooling systems.



"'Automatic' Sprinklers now save us \$33,517 on insurance annually—and on an investment of \$85,350", explains Walter Thompson, General Manager of the Cook and Company of Hazelhurst, Georgia, where wooden step ladders and knocked-down, packaged truck bodies are turned out in large quantities.

From the needle-nose radome of a supersonic fighter
comes a new steel-strong material for industry



**Have you seen these rugged, colorful cabinets
for the new Motorola portable record player?**

**They'll keep their good looks—
because they're made of resin-bonded glass fiber**

It was a formidable list of requirements that Motorola gave to 3M for the cabinet of its new portable record player.

The cabinet was designed as a contoured and sculptured form, for both function and beauty. It had to be extremely lightweight—yet so strong and so tough that it could endure years of use and abuse without denting or scuffing. And it had to be made in a variety of permanent colors.

The intricate form ruled out wood. It could have been stamped in metal, but the lightweight metals dented too easily and the stronger metals were too heavy. And metal would have called for a paint finish (which would eventually mar) or some sort of fabric covering (which would have added to the cost).

Resin-bonded glass fiber met all these exacting requirements—and even added two important bonus features: the glass fiber cabinet has much better acoustical qualities than metal, and it eliminates the possibility of electrical shock from the cabinet. There are no seams to open, no joints to split. The modern decorator colors are permanently fused into the glass-and-resin shell. The lus-

trous surface is dent- and scuff-proof. It is not affected by heat, humidity, sun, or rain. Grease, oil, and ink wipe off clean.

3M's high-strength structural plastics are basically the same type of material used in airborne radomes, the thin shells that house radar equipment. They are ideal for a wide variety of consumer and industrial products. They always add quality and sales appeal... often reduce the unit cost. They can be formed to almost any contour, in almost any size—at production-line speed. Motorola's colorful cabinets are forerunners of other stylish resin-bonded glass fiber products now on the way.

Today 3M has the most experienced engineering staff and the most complete production facilities in the reinforced-plastics industry. 3M's designers and engineers are ready to work with your own people if you have a product that is adaptable to reinforced-plastics manufacture. Or they'll help you design a new product that will take full advantage of the unique qualities of structural plastics. For more information, write on your letterhead to 3M Company, Box 91, Gardena, California.

**Minnesota Mining & Manufacturing Company
Reinforced Plastics Group**

Zenith Plastics Company Subsidiary, 1600 West 135th Street, Gardena, California
World's most experienced manufacturer of resin-bonded glass fiber products



FORM OF THE FUTURE: RESIN-BONDED GLASS FIBER





New kind of building passes tropical storm test!



Photo on left, Miami Beach Federal Savings and Loan Building, Miami Beach, Florida.
Architects: The Edwin T. Reeder Associates, Miami, Florida
Panel Fabricator: Davidson Enamel Products, Inc., Lima, Ohio
General Contractor: Arkin Construction Co., Inc., Miami Beach, Florida

In Florida, the temperature of a concrete or masonry wall of a building may vary from 50° at night to a blistering 190° during the day. This enormous temperature variation frequently causes cracks in the walls.

Ordinarily you can live with cracked walls, but we're talking here about the tropics. When a tropical storm sweeps across Florida's coast, its wind and rain search for the smallest opening. If the water works into the building, it may soak the plaster, cause paint to peel, or weaken the mortar.

In contrast, observe this building with its lifetime lustrous blue finish. After one year, there has been absolutely no water infiltration . . . "a major accomplishment" in the opinion of the designers. How did they do it? By using curtain walls of steel.

After the structural steel skeleton is erected, the outer wall is applied like a curtain. The first step is to bolt on a grid of Stainless Steel mullions. The mullions then hold the actual wall panels which consist of two layers of steel with insulation in between. The whole wall is only two inches thick. The outer steel panel is porcelain-enamelled steel with a fired-on, glass-hard porcelain surface that washes clean with every rainfall and is available in just about every color of the rainbow. A resilient fastening system prevents buckling or cracking (no water leaks), and the high reflectivity of the panels prevents heat build-up and high surface temperatures.

The thin panels allow more rentable floor area (worth \$29,000 in extra annual rent in this building); and, compared to masonry construction, the building weighs 1,100 tons less, so they could use lighter steel columns. It's all part of the new technology of building: curtain walls of steel.

• • •
STEELS FOR ARCHITECTURAL DESIGN
USS Stainless Steel • USS Structural Steel
USS Vitrenamel Sheets • USS Window Sections

USS and VITRENAMEL are registered trademarks.



UNITED STATES STEEL

From furnace to finish...

7 ACRES OF AUTOMOTIVE



SOCONY MOBIL

Leader in Lubrication for over 91 years

PLATE GLASS A DAY!

World's largest automotive plate-glass production line protected by Socony Mobil Correct Lubrication

Five railroad carloads of raw material a day enter the giant plate furnace of Ford Motor Company's new glass-making plant in Nashville, Tennessee. Melted into glass, it is formed into flat sheets which begin a 3730-ft. trip along the world's largest automotive plate-glass production line.

Cooled and rolled into flat sections, the glass moves along on 15-ton tables. Grinding and polishing these glass sheets into precision-finished surfaced glass is at the rate of *seven acres a day*.

To keep this complex, fully automated production line functioning smoothly 24 hours a day requires the finest lubrication protection. That's why the machinery builder, Hamilton Division, Baldwin-Lima-Hamilton Corporation, specified Socony Mobil Correct Lubrication.

Here is another example of how the world's foremost industries rely on the world's finest lubrication protection . . . Mobil!

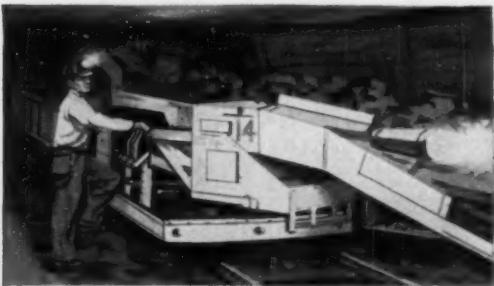
You, too, can rely on Socony Mobil for all your petroleum needs!



NATURAL GAS PIPELINES—Mobil serves this vital industry with lubricants designed to keep giant gas-engine compressors operating continuously year after year, 24-hrs. a day. Also the lubricants and fuels for automotive equipment . . . Mobilbead desiccant for dehydrating gas.



RUBBER—Mobil supplies the quality lubricants needed to protect Banbury mixers, mills, calenders and extruders under high temperatures and heavy bearing and gear loads. Also dust-stop lubricants, plasticizers, waxes and process oil requirements of this industry.



COAL MINING—Mobil supplies a variety of special lubricants to protect cutters, loaders, conveyors and other equipment operating under corrosive and abrasive conditions. Mobil also provides processing products to prepare coal for customer use.



CHEMICAL PROCESSING—Mobil lubricants help solve problems in processing, particularly where lubricant contamination by chemicals or product contamination by lubricants are involved. Other Mobil products are defoamants, desiccants, waxes, solvents, many others.

Correct Lubrication

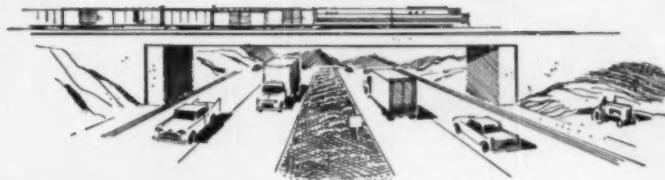
A proved program to reduce
maintenance costs



What a Crazy thing to ride on!

But Almost Everybody Does—

Crankshafts such as the one pictured here are the "hearts" of heavy-duty engines that power trucks, tractors, trains, buses, and ships. Crankshafts are our business, and we're at work constantly to build them better and better to meet America's growing transportation needs.



How Good Is Good?

Into crankshafts by Ohio go over 35 years of experience in precision manufacturing, plus millions of dollars worth of the most modern production equipment. But in addition to precision equipment and years of know-how, most crankshafts by Ohio have the important extra advantage of our TOCCO* process of Induction Heating. This process produces super-hard bearing surfaces without affecting the tough, ductile core of the crankshaft. We have many instances of almost unbelievable service records—more than a million miles with less than 1/1000 inch bearing wear on a Diesel locomotive, for example.

You May Never Buy A Crankshaft

But that doesn't mean TOCCO isn't important to you. Thousands of TOCCO Induction Heating Units are used today in all branches of the metal-working industry for surface hardening, annealing, and heating for forging all kinds of parts.

Almost invariably the use of TOCCO, instead of conventional heat treating methods, means better products, faster—and at lower cost.

The Ohio Crankshaft Company

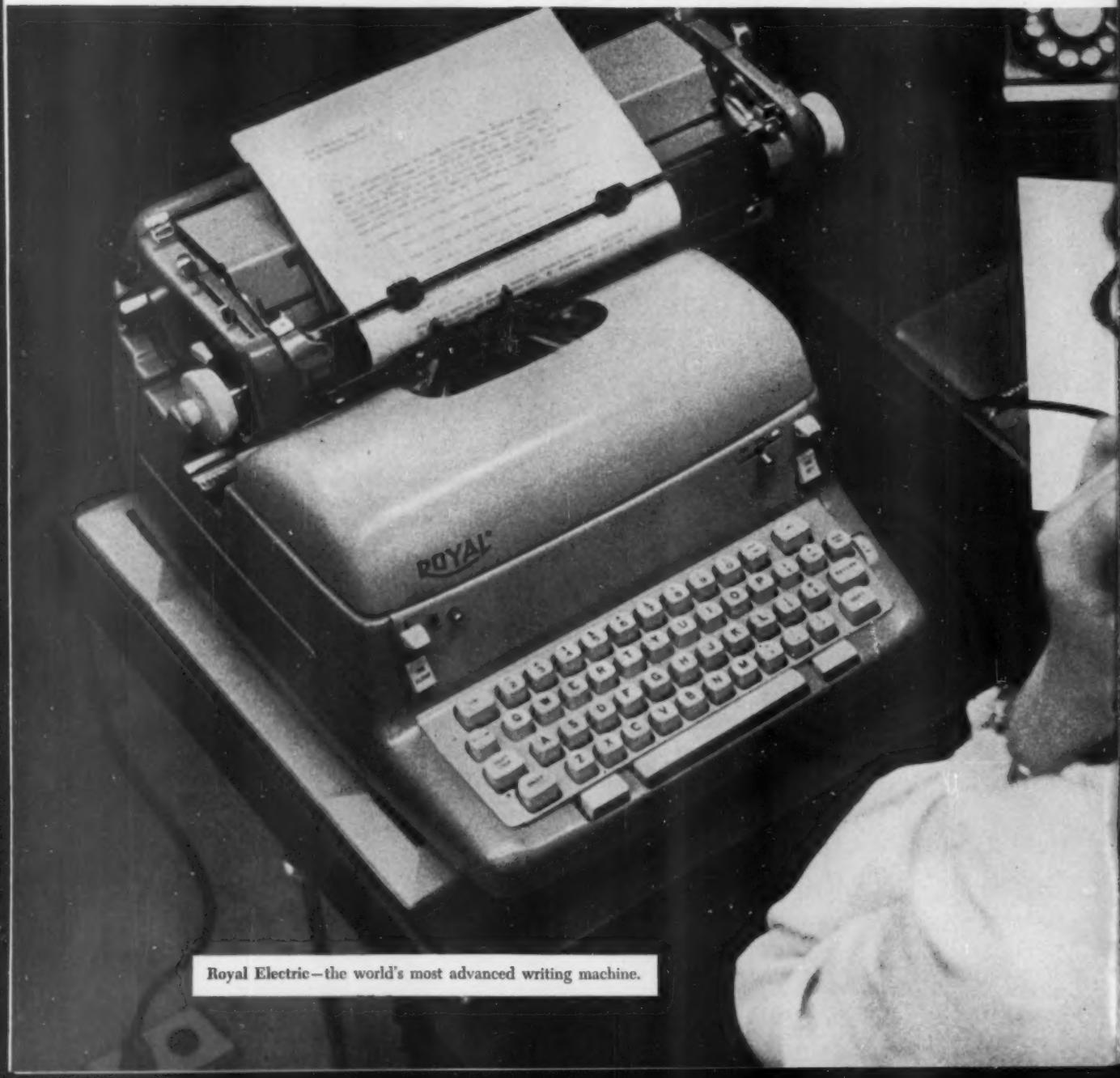
3800 Harvard Avenue • Cleveland 5, Ohio

*Trademark Registered U.S. Patent Office



Royal Portable—used practically everywhere by professional people and on-the-go executives.

This Royal M^cBee family of writing



Royal Electric—the world's most advanced writing machine.



Royal Standard — most popular office machine of its kind . . . the No. 1 choice of American business.



Royal Robotyper — increases typing output by automatically operating a battery of electric typewriters.

machines speeds communications in every kind of business

**Today, as in the past, more Royal typewriters
are used in American offices than any other make**

With most U. S. companies growing ever larger and more complex, communications is becoming a major part of every business problem. Result: the importance of the office writing machine increases each day. In addition to being essential for recording a company's vital facts and figures, it is the single indispensable office tool for transmitting the thoughts, instructions and plans of management.

Yet today, because of Royal McBee's new and needed concept of office automation, the writing machine's importance to American business has been further extended. Now it is being joined to the latest automated devices in a whole family of Royal McBee office machines — advanced data processors and electronic computers — to fit every business at reasonable cost.

Automation gets a new look as Royal McBee offers 1) machines and methods adaptable and affordable to companies of *all* sizes; 2) machines and methods which fit your business as it *stands . . . as it grows*; 3) office automation which is the servant of your people, not their master.

The power behind this promise combines 1) Royal's half-century of leadership in the manufacture of typewriters — with over 10,000,000 machines produced; 2) McBee's 25 years of pioneering in advanced accounting methods; 3) a vigorous, large-scale research and development program.

Resources at Royal McBee's command include 1) over 12,000 employees; 2) domestic

manufacturing plants in Hartford, Conn., Athens, Ohio, St. Louis, Mo., and Ogden, Utah; 3) international plants in Canada, Mexico, Holland, Italy and West Germany; 4) distribution in more than 100 countries; 5) over 900 sales-service centers in the U.S. and Canada alone.

Present Royal McBee products will today add new speed and flexibility to your office operations . . . will work *with* your people, increasing their ability to serve you in making more timely, more meaningful management decisions. They will be joined by others in the months ahead . . . new machines and methods to augment the low-cost, adaptable office automation which Royal McBee now offers.

ROYAL M^CBEE

C O R P O R A T I O N

General Offices: Port Chester, N. Y. Royal electric, standard and portable typewriters; Robotyper, Roytype typewriter supplies; McBee Keysort punched cards and data processing machines; Royal Precision electronic computers and data processors; McBee accounting records, equipment and methods.

Be the guest of Royal McBee and "Sally" Sunday evenings on NBC-TV network

Announcing...the newest



The 58 FORD with Round-the

The whole wide world was its test track!

For '58 Ford offers you the world's newest fleet cars—already proved under the most demanding conditions imaginable. The whole wide world, from London to Saigon, from the Alps to the Rockies, served as Ford's test track. When this unprecedented test trip was completed, the '58 Ford had demonstrated beyond doubt that it had the stamina and dependability to meet any fleet demand.

Equally important as stamina and dependability are the savings the '58 Ford can offer in year-round fleet operation. With Ford's new Interceptor V-8 engine,

plus new Cruise-O-Matic Drive, you can get up to 15% better gas mileage. And this year the famed Ford Mileage Maker Six will deliver up to 10% greater economy.

And there's so much more that makes the new '58 Ford your best bet for fleet service...improved suspension for better ride and roadability...new Safety-Twin headlights for greater safety...the newest styling on the road for greater prestige and increased resale value.

Get the complete story...including low, low cost...from your nearest Ford Dealer. See him today!



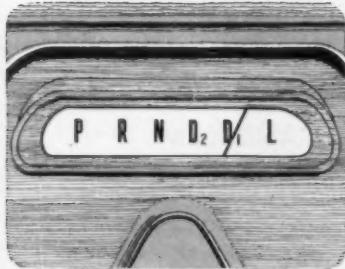
**PRECISION FUEL INDUCTION—A
NEW CONCEPT IN ENGINE DESIGN**

Ford's '58 Interceptor V-8 engines feature Precision Fuel Induction—combining new "expressway" manifolds, larger ports, higher-lift valves, and machined combustion chambers. Result—amazingly increased power, thrifter performance from your Ford.

fleet car in the world

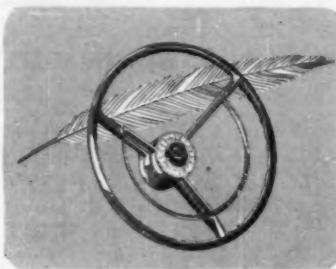


World Stamina and Year Round Economy



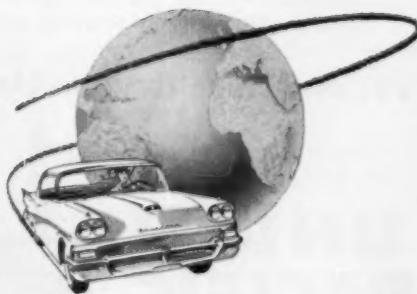
CRUISE-O-MATIC DRIVE FOR
FINEST PERFORMANCE, EXTRA ECONOMY

The newest, most advanced, and most versatile of all automatic drives. Its unique design permits use of a special rear axle ratio to provide "built-in" overdrive economy. In teamwork with the new Interceptor V-8 engine, this new drive delivers up to 15% greater fuel economy.



NEW MAGIC-CIRCLE STEERING
MAKES A WORLD OF DIFFERENCE

Recirculating steel balls roll smoothly to provide up to 12% less steering effort. Your drivers will really appreciate Ford's easy parking, and smooth handling in traffic. And new Magic-Circle Steering is yours as standard equipment on every 58 Ford.



THE 58 FORD
PROVED AND APPROVED
AROUND THE WORLD



MAN AT WORK

There he is. Shuttered from the outside world in a Pullman room. No interrupting phone calls or visitors. He can concentrate, plan ahead, make revisions on a talk coming up for a meeting or convention. That's why he likes to travel by train. It offers privacy, restful sleep, and food of his choice to be relished in an attractive dining car.

MEN AT LEISURE

When a little voice whispers, "Why don't you forget the cares of business and relax awhile," the club or lounge car beckons. Join congenial companions for a card game or interesting discussions.

When you think of it, doesn't the smooth, steel highway—Union Pacific, to be specific—offer you the "mostest" in relaxing, enjoyable travel?



... and here is your Union Pacific service to and from the West

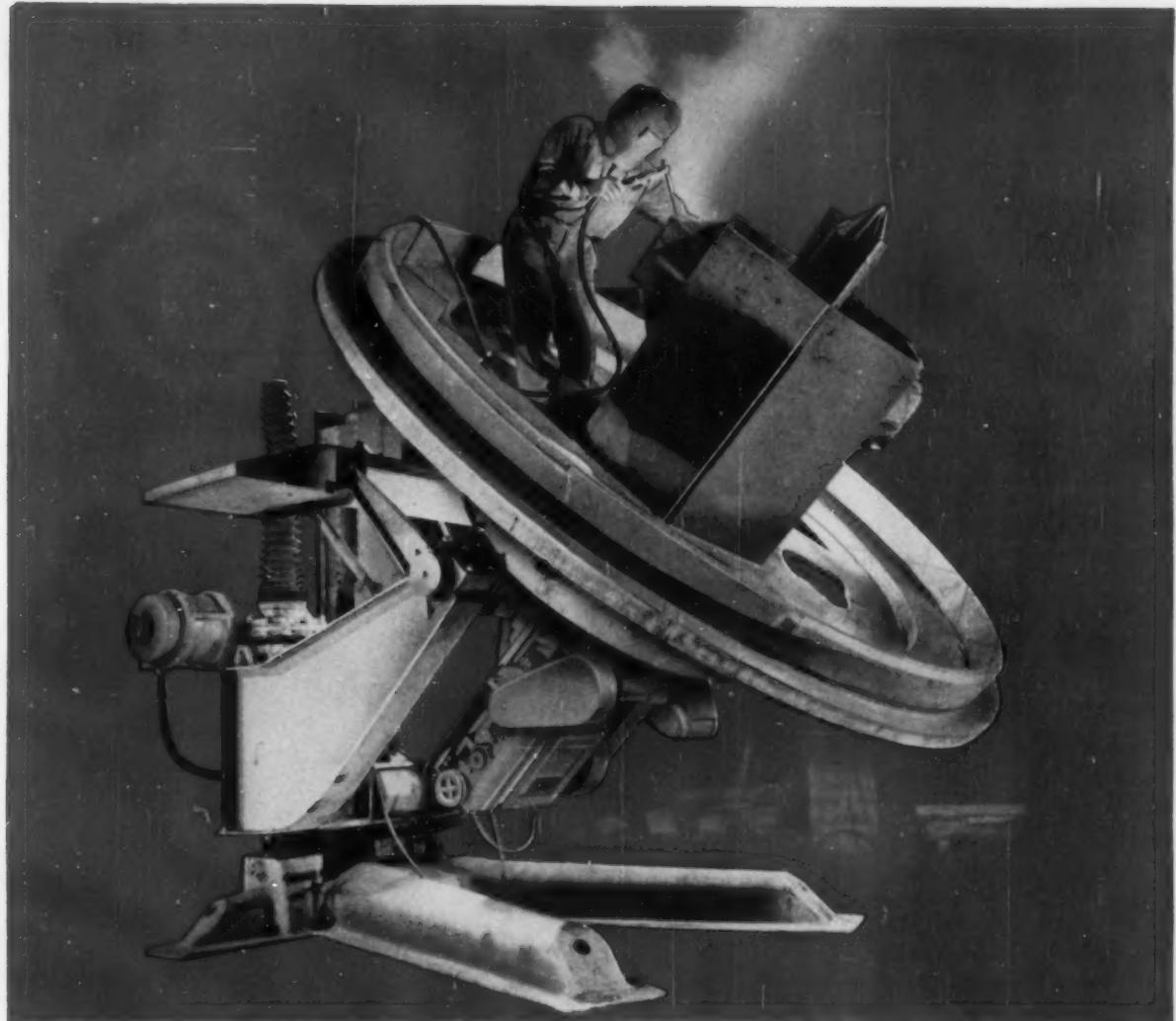
**UNION
PACIFIC**
Railroad
OMAHA 2, NEBR.



Domeliner

Streamliner

- | | |
|---|--|
|  | "CITY OF LOS ANGELES"
West and East—between Chicago-Los Angeles |
| | "CITY OF PORTLAND"
West and East—between Chicago and Portland-Tacoma-Seattle |
| | "CITY OF ST. LOUIS"
West and East—between St. Louis-Kansas City and California |
|  | "CITY OF SAN FRANCISCO"
West and East—between Chicago-San Francisco |
| | "CITY OF DENVER"
Overnight between Chicago and Denver |



Want to save 43 cents out of every dollar?

... you can do it with **P&H** Welding Positioners

86% of the total cost of welding is spent on labor and overhead. That's because the average operator spends a lot of his time doing other things than welding . . . such as repositioning and blocking weldments for the next pass . . . waiting for cranes or other men to help him.

P&H Welding Positioners offer you an opportunity to cut this cost in *half* — making possible a saving of 43 cents in every dollar!

P&H positioners enable operators to do all welding in the natural downhand position. *Result* — better welds, faster work.

P&H positioners provide greater capacity, higher

elevation than any other positioner. *Result* — big and awkward-shaped weldments can be handled quickly with ease and *safety*.

There are 12 P&H models to meet your exact requirements, with capacities ranging from 500 lbs. to 100,000 lbs. Have your Welding Superintendent write today for "What You Should Know about Welding Positioners." Dept. 331A, Harnischfeger Corp., Milwaukee 46, Wisconsin.

HARNISCHFEGER



WELDERS • ELECTRODES • POSITIONERS
MILWAUKEE 46, WISCONSIN



PAPERWEIGHTS that waste millions

Inadequate paperwork methods generate "paper waits" that daily burden American business with "paperweights" that hold down productivity and profits—and waste untold millions of dollars.

468 of the 500 largest U. S. corporations—and tens of thousands of smaller concerns—have installed MULTILITH OFFSET methods to speed paperwork production and stop profit losses because only Multilith Offset can do so many types of work so well.

Whether you use Multilith Offset for systems or office duplicating, business forms or promotional material, it will speed up clerical operations—and build up your profits.

If you have management responsibilities, you are entitled to a report on where and how your business can benefit from Multigraph Methods. Call the nearby Multigraph office. There is no obligation.

JUST OFF THE PRESS! A completely new edition of the informative booklet, "Is Your Business Held Down By Paper Waits?" Over 100,000 copies of the earlier editions have guided progressive business organizations toward never-before-realized savings and efficiency in their paperwork procedures. To get your copy, write: Addressograph-Multigraph Corporation, Cleveland 17, Ohio—Simplified Business Methods.*

Addressograph-Multigraph
PRODUCTION MACHINES FOR BUSINESS RECORDS

© 1967 A-M Corporation

BLANK PAPER +



A MULTILITH MASTER



=

COMPLETE BUSINESS RECORDS



*Trade-Marks

SERVING SMALL BUSINESS — BIG BUSINESS — EVERY BUSINESS



*How does a new
chemical company
win customers?*

AMOCO CHEMICALS—A NEW RESOURCE

One way we at AMOCO Chemicals expect to win customers is by backing up the products we sell with effective technical service. Customers receive not only the products they buy from us but also help in applying these products profitably.

This facet of our selling is so important to us that a special technical service laboratory has been established separate from our other research facilities. One day recently a telephone call came to our laboratory from a paint manufacturer in Canada who uses our PANAREZ Hydrocarbon Resins. He was having problems with his aluminum paint formulation. By 4:30 p.m. the next day our technical service men had duplicated the formulation, isolated the problem and prepared several suggested solutions. The paint manufacturer had these suggestions less than 30 hours after his original call.

The broad interpretation that we have given to the term technical service is exemplified by our work on caulking compounds. For years manufacturers of caulking materials have needed better yardsticks for measuring the quality of their finished formulations. Our technical service men developed three new tests for evaluating caulking compounds. They have thus advanced the industry's knowledge of what it takes to make good caulk.

We think that effective technical service is one of the ways to win customers and to become a new resource in the chemical industry. May we serve you? Your inquiry will receive an immediate response.

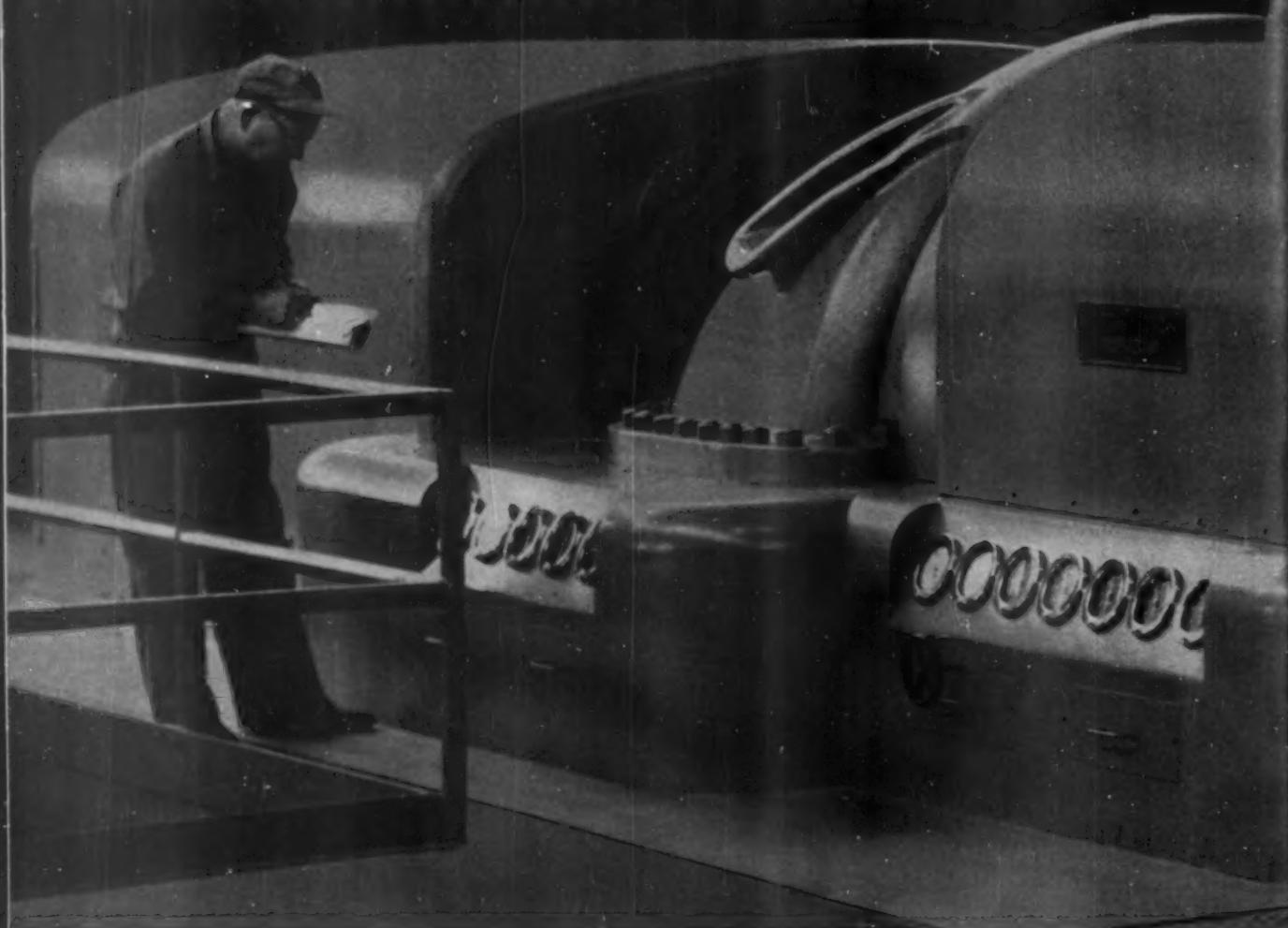
John J. O'Connell, Vice President of Marketing, reports on AMOCO Chemicals plan for providing technical service to customers.

AMOCO
CHEMICALS
CORPORATION

910 S. Michigan Ave. Chicago 80, Ill.

WHY REVEAL TRADE SECRETS IN AN ADVERTISEMENT?

Our objective is not to give aid and comfort to competition, but rather to provide helpful information for businessmen everywhere. Prospective turbine buyers, we believe, will also find this message of interest.



HOW TO COMPETE SUCCESS

By ARTHUR F. REINKING, General Manager, Steam Turbine Division, Worthington Corporation

Worthington is big. But it takes more than size alone to sell turbine generators in competition with some of the largest corporations in the U. S.

Turbine generators—like steel, chemicals, or autos—take a tremendous investment just to put a team in the field.

In the hope that our experience may help other companies faced with similar problems, here are five ideas which we have found unusually successful.

1. Concentrate where the volume is. In any business you can usually figure that 15% of the line accounts for 85% of the volume. So the first rule to follow is to concentrate on the high volume end of the line where you find most of the business.

Don't you need a full line to compete? Not necessarily. In our case, building turbine generators up to 15,625 kw only has enabled us to develop a specialist reputation for the smaller industrial and municipal turbines. Concentrating on the smaller sizes not only reduces overhead and other costs, it allows our engineers and technical staff to devote all of their time to this size range.

2. Set up a separate division. Divisional operation is not a new idea, but when you're up against big company com-

petition it can be vitally important. By setting up a separate operating division and completely integrating its functions, you are organized to fully exploit your natural advantages.

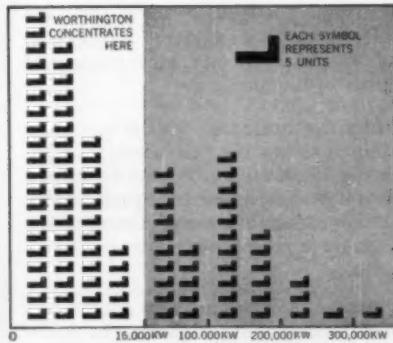
Worthington has established its Steam Turbine Division at Wellsville, N. Y. Complete engineering, manufacturing, and marketing staffs as well as all production operations are located here. We're able to move fast, to do things that a larger or more centralized company might find more difficult or more involved to accomplish.



WORTHINGTON



FULLY WITH THE GIANTS!

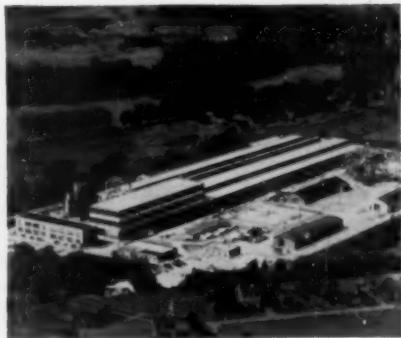


Concentrate where the volume is. Worthington builds turbine generators up to 15,625 kw only. This covers the largest number of units sold by all makers over the last two years.

3. Specialize in service. A relatively small integrated division concentrating on one part of the business enables you to shine when it comes to service. By giving special attention to this area, you should be able to provide better price and data service, more "tailoring" of the job to customer requirements, more accurate job following, faster deliveries.

In turbine generators, good service depends on people. Because we do not build the huge central station units, the customer gets special attention plus the services of our top people.

4. Invest in people. The difference between hiring 50 people at a time and 500 is more than simple arithmetic. The smaller company can afford to hire more carefully,

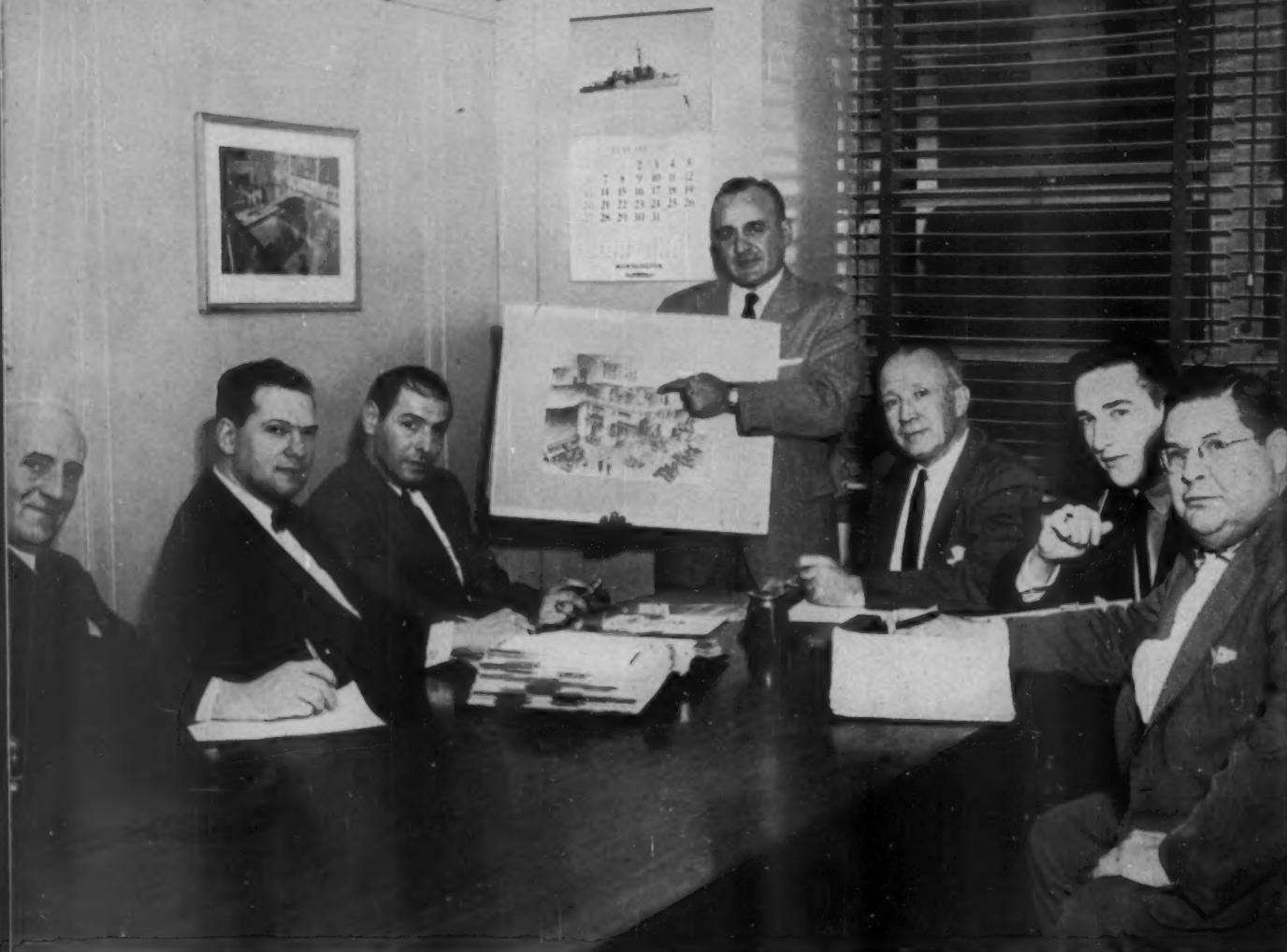


Set up a separate division. All functions of Worthington's Steam Turbine Div.—engineering, manufacturing, sales—are located at Wellsville, N. Y., 80 miles southeast of Buffalo.

continued on next page

SPECIALIZE IN SERVICE

Author tells how the specialized skills of these 11 men are brought to bear on every order for a Worthington turbine generator.



SERVICE ENGINEER GENERATOR SPECIALIST TURBINE SPECIALIST DISTRICT MANAGER DISTRICT ENGINEER APPLICATION ENGINEER SALES ENGINEER

HOW TO COMPETE SUCCESSFULLY



Invest in people. "Craftsmanship" is the big benefit of developing people. These 10 men collectively have 329 years of experience building turbine generators at Worthington.

continued from previous page

to train more thoroughly. The natural result of such practices is the development of a tradition of craftsmanship.

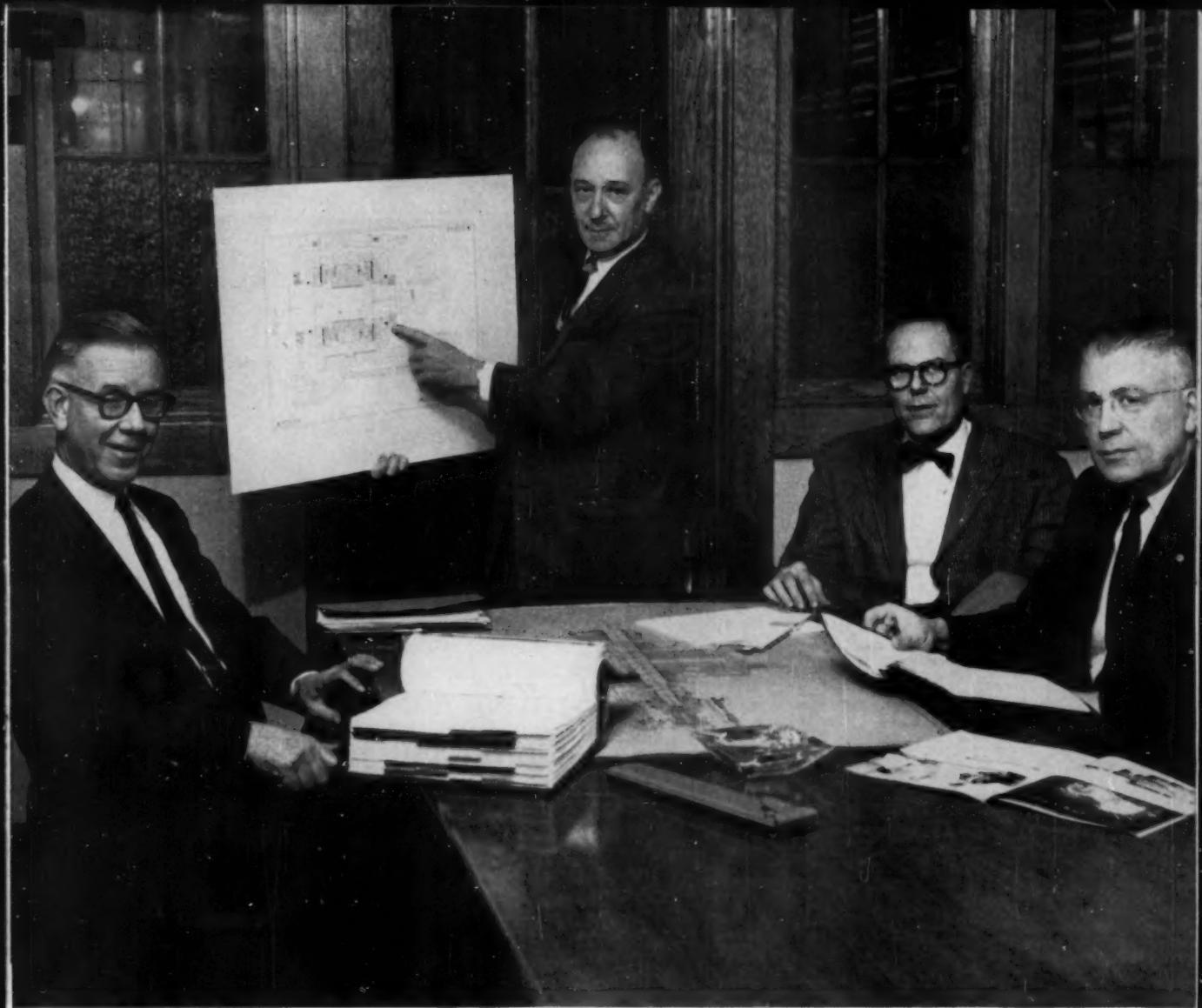
At Wellsville, our turbines are built by men with an outstanding record for loyalty and skill. One foreman has been with us 33 years. A master machinist recently retired after 40 years service. Excluding clerical and janitorial employees, more than half of our working force has been with Worthington 14 years or more.

Craftsmanship adds extra quality to any product. It's the single most important reason for Worthington's success in the high-speed turbine field (up to 15,000 rpm). Here, where tolerances are ultra-important (failure can bring an entire process plant to a complete halt), craftsmanship has put

the Worthington high-speed turbine in the number one position in the industry. It leads all others in total horsepower and number of installations.

5. Buy the best. One way to guarantee quality is to buy the best materials available regardless of cost. When you buy the best you not only improve the performance of your product, but you also demonstrate its quality to prospective buyers in a tangible way.

"Buying the best" helps us get business in competition with companies who devote most of their attention to the larger units. It's standard practice, for example, for us to include extra quality items normally found only on larger turbines. Our men in



MANAGER OF SALES

DIVISION GENERAL MANAGER MANAGER OF ENGINEERING MANAGER OF MANUFACTURING

WITH THE GIANTS (CONTINUED)

the field tell us that "big turbine design on all size units at no extra cost" is a potent sales feature that most buyers want.

Last year we bought millions of dollars worth of turbine generator materials from our suppliers. We paid thousands of dollars extra to get extra quality. Through the years this policy has paid many dividends for Worthington and for our customers.

* * *

Have these principles proved successful for Worthington? Well, we're proud of the fact that of the many turbine generators built in our 41 years in the business, almost all are still in operation. We're also proud that companies like Libbey-Owens-Ford, Clinton Corn Processing Co., Kohler of



Invest in product. To demonstrate quality, Worthington offers "big turbine" features on most units at no extra cost. These cam-operated nozzle control valves are a good example.

Kohler, and Columbia Cellulose; institutions like the Universities of North Carolina and Iowa State; atomic energy plants, and cities like Menasha, Wis., and Kinston, N. C., all use Worthington turbine generators.

We can give you more information. For a simplified explanation of the types of turbine generators, their application and operation, write for Bulletins 1960 and 1968. Address Section T-71, Worthington Corporation, Harrison, N. J.

WORTHINGTON



PREVENT EYE ACCIDENTS



*Keep non-safety frames
out of your plant! . . . use*

AO's NEW 2-TONE ULTRASCOPIC

Safety Glasses

9 out of 10 companies where eye hazards exist appreciate the necessity of *safety standard* frames as well as safety standard lenses in preventing costly eye accidents. Inadvertently or otherwise, there has been an increasing trend to substitution of non-safety frames. This practice should be guarded against if protection programs are to be effective.

We cannot overemphasize that American Optical safety glasses have true safety frames in every respect. In these new two-tone glasses, for example, we mean that frames and eyewire are designed to hold safety lenses securely in case of severe impact. The AO plaque on the frame front and the monogram on the lenses are your guarantee that it is a true safety spectacle.

Your Safety Director is a specialist. Rely on him to give your workers the *quality* eye protection they need. He knows that the price of safety, like the price of liberty, is *eternal vigilance*.

*Always insist on AO
Trademarked lenses and frames*

American  Optical
COMPANY
SAFETY PRODUCTS DIVISION

SOUTHBRIIDGE, MASSACHUSETTS • Branches in Principal Cities

BUSINESS OUTLOOK

BUSINESS WEEK
NOV. 23, 1957



Now comes the test of whether—and how much—cheaper money can help business. To a degree, the discount rate cut (page 48) does little more than recognize that activity already is sliding rather disquietingly.

Stock market dealings have dramatized the conflicting views:

Prices quickly skyrocketed on the bank rate announcement; then came this week's calmer, less hilarious appraisal.

Tight money, unhappily, typifies the very conditions of prosperity, good profits, and generous dividends on which stock markets thrive. And easy money often is symptomatic of just the reverse.

Yet looser credit, undeniably, betters the mood of the marketplace.

What has happened so far is only a token for the money market.

The Federal Reserve served notice (dramatically, with a cut of a full $\frac{1}{2}\%$ rather than $\frac{1}{4}\%$) that it is aware of business tremors. But the Fed only made money cheaper; it has yet to make it more plentiful.

If the Fed goes ahead (as hinted) and pumps up the credit supply, this will be a further admission that business needs a poultice.

For now, corporations in need of capital have the satisfaction of knowing at least that the bond market is healthy once again.

Bond houses quickly cleared their shelves of dusty merchandise after the cut in the discount rate. This does more than cheer them; it frees their capital for bids on new issues—at today's more favorable prices.

The crux of the credit issue, though, is whether businessmen who felt like borrowing yesterday are quite so much in the mood now. Money has turned easier, really, because demand tended to dry up.

That's a natural result of belt-tightening as business falls off.

—•—

Fighting inflation might still prove necessary over the long haul, but this certainly is fading into the background as a near-term problem.

The business stage now is set predominantly in tones of gray.

Employment conditions must at best be described as unsettled. Consumer incomes are declining. And factories are cutting output.

—•—

Personal income apparently declined even more noticeably in October than it had in September.

The preliminary estimate by the Dept. of Commerce places last month's annual rate at \$345.6-billion (seasonally adjusted). That's down from \$346.6-billion in September and \$346.8-billion in August.

There still is a year-to-year gain of better than \$11-billion, to be sure. But the margin over a year ago has faded to a scant $3\frac{1}{2}\%$ against a plus of 4.7% in September and better than 5% earlier in 1957.

Almost the whole of the decline in personal income so far has been right where it hurts the most—in mass purchasing power.

Lower employment and shorter hours account for this. After doing

BUSINESS OUTLOOK (Continued)

BUSINESS WEEK
NOV. 23, 1957

rather better than other types of earners (investors, proprietors, and the like) early in the year, workers now are faring less well.

Their drop was at an annual rate of \$1.6-billion for October.

Declining personal income, over brief periods, need not necessarily mean much of a dent in consumer spending.

In fact, between June of 1953 and April of 1954, people's intake was receding at a rate of more than \$4-billion a year. Yet their spending faltered only briefly, in 1953's final quarter.

That time, however, spendable income was cushioned by the tax cut. A tax cut this time, considering stepped-up defense needs, would represent a deliberate decision to help consumers at the expense of the budget.

—•—

Production remains at a very high level, but the Federal Reserve Board index's 2-point drop last month confirms the turn for the worse.

The index number of 142 for October (42% above the 1947-49 average) was the lowest since last year's steel strike. It fell 4 points below the year-ago level and was 5 points down from the peak of the boom.

Yet it equaled the average for the first half of 1956—or the last half of 1955, for that matter.

Output losses, as you would expect, are conspicuous in hardgoods.

In the all-durable-goods category, there has been a drop of 7% so far this year. In the vital field of metalwork, the slide is the same.

And it isn't just factories making durables for consumers that have suffered. While their production in October was 13% off from the end of 1956, the rate in machinery had receded by almost 8%.

On the favorable side, production of softgoods continued last month at the peak rate established in September.

—•—

Lower production and declining worker income have been signaled, of course, in the employment trends. Factories now are using 470,000 fewer hands than a year ago with 320,000 of the drop in durable goods.

—•—

Railroads, suffering both from long-term inroads of competitive carriers and lower business, are hurting (BW—Nov. 16'57, p77).

As an indication of their woes, half of Tuesday's 10 most active stocks on the New York Stock Exchange were rails with losses running from 75¢ to \$2.25. The shares of 20 major roads that day sold at new 1957 lows (and, in many cases, the lowest in a much longer time).

Ebbing traffic and curtailed earnings, meanwhile, make the railroads miserly customers of other industries. They have, for example, only 65,718 freight cars on order now compared with 122,250 a year ago.

Financial problems of the railways trace, of course, to passengers as well as freight. You saw the Illinois Central ask a 55% hike in commuter fares this week and the New York Central for 13% additional on top of the 15% granted a few months ago. And the New Haven plans to seek both subsidies and tax concessions from areas it serves.



COPPER NERVES THAT RELAY LIGHT AND POWER . . .

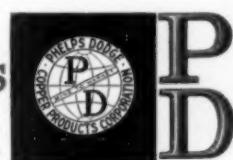
BUILDING WIRES AND CABLES made by PHELPS DODGE



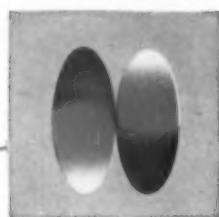
Behind the walls in houses, schools, office buildings and factories, networks of copper cables and wires speed electricity to power outlets the instant you flip a switch. Modern wiring systems demand many types of wires and cables with long service life and high dependability—qualities that make the Phelps Dodge name an honored one with electrical contractors everywhere.

PHELPS DODGE COPPER PRODUCTS

CORPORATION • 300 PARK AVENUE, NEW YORK 22, N. Y.
FIRST FOR LASTING QUALITY—FROM MINE TO MARKET



VOL. 1, NO. 1, NOVEMBER, 1957



ADVANCED MATERIALS TECHNOLOGY

A PUBLICATION BY CARBORUNDUM

The New Science of
Materials for Profits



CARBORUNDUM, NIAGARA FALLS, N. Y.

Research & Development Division, Dept. B

Gentlemen:

Please start my free subscription to **ADVANCED MATERIALS TECHNOLOGY** with your current issue.

SEND COUPON FOR YOUR **FREE SUBSCRIPTION** TO:

Name _____
Position _____
Firm _____
Street _____
City _____
Zone _____
State _____

A NEW Carborundum publication of news and ideas for all concerned with advanced materials for profits to industry

Almost every industry faces barriers raised by the limitations of conventional materials. With some—aviation, for example—the hypersonic speeds of intercontinental missiles have meant finding materials capable of withstanding temperatures of more than 10,000 degrees F. In other industries, like chemical processing, the urgent demand for corrosion resistant materials continues. In still other industries, the problems of abrasion, neutron transparency and the need for special properties have stimulated the search for advanced

materials and manufacturing methods.

Carborundum is publishing *Advanced Materials Technology* as an aid to all whose work demands materials and processes for severe service applications. It will be published quarterly. This publication—the first devoted exclusively to advanced materials and techniques—will prove invaluable in providing a new dimension in materials for profit.

This new service by Carborundum is offered to you without charge in the belief that it fills a definite need. AM-1

WHAT HAPPENS AT MACH 11?



The artist's conception at left shows a dramatic test simulating what happens to materials moving at speeds of Mach 11. It is based on the actual photos above of samples of 304 Stainless Steel (top) and KT Silicon Carbide exposed to a high intensity electric arc in a wind tunnel. The intense heat due to air friction causes melting of Stainless Steel, while KT Silicon Carbide retains both its shape and basic characteristics.

Typical departments in each issue will include:

1. **New Developments** . . . new products of particular interest to a wide cross-section of industry will be featured in each issue. These developments will include materials resistant to heat, corrosion, abrasion and other destructive conditions, with wide potential application throughout industry.
2. A "look ahead editorial" authored by General Leslie E. Simon, Vice President and Director, Research and Development Division of The Carborundum Company, will talk about the future of research, today and tomorrow, at Carborundum.
3. **Materials Symposium** . . . An exchange of ideas feature designed to encourage reader participation. Essentially a problem and solution treatment. Designed to provide maximum benefit to all industry.
4. **New Product Spotlights** . . . A capsule treatment of new products and new applications for old products of widespread interest to almost every segment of industry.
5. An "Ask the Man from Carborundum" department devoted to highlighting the service availability and practical "know-how" of the Carborundum technical man in the field.

CARBORUNDUM

Registered Trade Mark



COILS OF TIN PLATE—ACTUALLY 99% STEEL—READY FOR SHIPMENT AT J&L'S ALIQUIPPA WORKS

PHOTO BY HARE

The Tin Mill... Bright Start for Better Living

As "king of the kitchen," the dependable tin can is keeping pace with America's growth.

For the tin can has extended its usefulness beyond food to include beverages, household cleaners, motor oil, drugs, cosmetics and many other products that mean better living.

This electrolytic tinning line at Jones & Laughlin, one of the most modern in the industry, reels off coils of fine-quality tin plate at high speeds.

Recent improvements in the tin mill, as part of J&L's continuing expansion and improvement program, have increased J&L's ability to supply the growing needs of can manufacturers.

Here again J&L, the nation's fourth largest steel producer, contributes to better living for all.



Jones & Laughlin
STEEL CORPORATION • PITTSBURGH

J & L...A GREAT NAME IN STEEL

THE FACE OF THE WORLD IS CHANGED, AND THIS IS . . .

America's Week of Transition



1. A revivified military program is being shaped up; with a new Defense Secretary (Neil H. McElroy, left) getting to work. More billions will be spent; the debate is over how many. Missile work is being reorganized. And new foreign aid moves, military and economic, are in the works. Page 46, Page 120.



3. Reacting to these crosscurrents, the stock market (left) skittered upward and then sagged back. But the prospect of cheaper money has set the bond markets off on an upward surge. Page 49.



5. In Washington, new White House advisers, spearheaded by Vice-Pres. Nixon (left), are becoming important as the Administration takes a new direction. They are the ones Eisenhower listened to when he set the new course. Page 52.

6. The long-range hope is brains—more education, more science. This week government people and educators are mulling over plans. Page 54.



NEIL McELROY settling into job of Defense Secretary, assigned added chores to...



... WILLIAM HOLADAY, now director of guided missiles—but still no “czar.”



W. J. McNEIL, Defense's comptroller, huddled with Eisenhower on budget.

1. Sharpening Defense—Money

Official Washington buckled down this week to a delicate and vital task: translating into action Pres. Eisenhower's decision that more money must be spent to overtake Russia in the space age arms race.

It is now clear that defense spending for fiscal 1959—the 12-month period beginning next July 1—will be at least in the range of \$39-billion to \$40-billion, an increase of \$1-billion to \$2-billion.

And that is but the first of many expensive installments for security that the nation will be called on to meet.

Responsible sources within the Administration estimate that three years hence the bill for direct military spending will be in the range of \$42-billion to \$43-billion—up \$4-billion to \$5-billion over present levels.

• **Least of Worries**—In Washington's current atmosphere of urgency, however, money is hardly the biggest problem the Administration is coping with.

This week brought some developments indicating the bigger problems:

- The Pentagon's command for missile development was shaken up. It meant new authority and a bigger title for William M. Holaday.

- Secy. of State John Foster Dulles roughed in the outline of the Administration's plan for countering Russia's new military strength—based on apparent missile superiority—while the U.S. catches up.

- **Dulles Plan**—The basic ingredients of the plan that Dulles laid out at a midweek news conference are:

- (1) Hurrying guided intermediate-range ballistic missiles to our North Atlantic Treaty allies. The Adminis-

tration would like to see IRBM missile bases put into a ring around Russia during 1959.

(2) Building some new missile launching pads under U.S. control on the Continent.

(3) Building nuclear weapon stockpiles in Allied countries. The weapons would be under U.S. control, but stockpile building would include training Allied troops in how to use them.

The Administration's approach is based on both military and political considerations. In the first place, IRBM bases within striking distance of the Soviet heartland and nuclear weapons within immediate grasp on the Continent would give the U.S. time to catch up in the super-range missile field. For another thing, the Administration realizes that the Allies need to have their confidence in the U.S. restored and their own military capabilities upgraded.

• **Many Voices**—Events of the week came thick and fast, and before many forums.

- Eisenhower slipped away for a work-and-golf vacation at Augusta, Ga., where at midweek he summoned Defense Secy. Neil H. McElroy and Pentagon Comptroller W. J. McNeil to a conference on the defense budget.

- Douglas Dillon, the State Dept.'s foremost expert on foreign aid, sounded the initial call for more money in his area next year in a New York speech.

- Vice-Pres. Richard M. Nixon, in Columbus, Ohio, for a football game, said the Administration thinks it could make the grade without asking for a tax increase next year. At the same time, Administration sources quickly poured

cold water on suggestions that stand-by economic controls may be sought.

- Air Force Secy. Donald Quarles, in New York for a speech, counseled that the U.S. strategic position is sound in the short term, that the missile program is coming along well, and that there's no cause for panicky “dispersion of efforts that would scatter our talents and resources in a . . . wasteful manner.”

- **Still Civil War**—Amid it all, the Army was disclosed to be seeking a \$6-billion program to produce anti-missile missiles by 1961. The Air Force is doing battle behind the scenes, apparently fearing that its role as the basic intercepting force is in jeopardy.

The episode distressed many Washington observers on two counts—first and foremost because it symbolizes an apparent feeling below the topmost Pentagon echelons that now's the time to move because “anything goes,” and secondly because it illustrates again that the services are still given to intra-mural competition.

Late in the week, Eisenhower's brief Georgia vacation ended. He flew back to the capital, for the National Security Council meeting Friday on next year's defense budget and to prepare the third of his series of “reassurance” speeches, scheduled for next Tuesday night at Cleveland.

I. Push on Missiles

McElroy last week began carrying out Eisenhower's orders to shake up the Pentagon's missile management by naming Holaday, the secretary's special assistant for missiles, to be the Defense Dept.'s director of guided missiles.



LYNDON JOHNSON, Senate majority leader, readied probe of lags on missiles.

and Plans

Along with the new title goes added authority. In the past, Holaday was limited to strategic missiles—that is, short- and long-range ballistic missiles—and he covered only research, development, engineering, and production. He had nothing to do with procurement of operational missiles.

Now he has jurisdiction over all guided missile projects, plus power to set policy on procurement of operational weapons.

• **Status**—Many Pentagon officials claim that under the new rules Holaday will continue to be essentially a coordinator for McElroy, with little authority to make big decisions. McElroy says Holaday's authority will stem from a "combination of his own ability and his relationship to me." So Holaday will be more than a coordinator—he will be a glorified bureaucrat, if he has ability and the will to exercise it.

McElroy plans to set up, in addition, a single manager to oversee development of future missile and satellite projects. There would be a manager for the anti-missile missile, for reconnaissance satellites, for space vehicles, and for other projects outside the traditional realms of the Army, Navy, and Air Force.

• **IRBM's for Britain**—The big drive in the Defense Dept. will be for production of intermediate-range missiles. McElroy now talks of shipping IRBM's to Britain in 1958-59, "earlier than had been expected."

Current Defense Dept. expenditures for all missiles now run at an annual rate of \$2.5-billion. Gen. Thomas D. White, the Air Force Chief of Staff, said last week in Chicago that the Air

Force alone will spend this amount for missiles in fiscal 1959.

Even normal spending for defense is picking up. From July to September, 1957, the Defense Dept. placed no new contracts—other than extensions for existing projects—to buy military hardware.

Now contracts are beginning to flow. From October to next June, total value of procurement contracts to be awarded will be about \$14-billion—roughly the same amount as was let during all of fiscal 1957. In fiscal 1959, the value of new contract awards is likely to rise as well.

To offset these added new costs, other programs will be cut, and some major military installations will be shut down. One new decision: another 100,000-man cut in the armed forces, to take effect during fiscal 1959.

II. How Big a Program?

There are skeptics among the Democrats who think the Administration is talking far too low when it mentions a \$1-billion to \$2-billion rise in military spending for the fiscal year ending June 30, 1959.

Rep. Wilbur Mills (D-Ark.), top-ranking member of the House Ways & Means Committee and the leading Congressional expert on government revenue needs, is one of these. He feels that the Administration next session may well find itself asking for as much as \$10-billion more—in obligatory authority, if not in immediate spending.

Mills thinks the Administration will send Congress a balanced budget in January—with no more than a \$1-billion to \$2-billion increase showing. The reasoning is that the big increases will begin to show later, in supplemental appropriation and authorization requests. These normally receive little public attention and—coming late in sessions—often slip through Congress without causing much of a flurry.

Certainly, Democrats are demanding vastly greater spending than the Administration is suggesting. If there is a Congressional Democratic line on what should be done, however, it has yet to be established. If there is to be one, it will begin taking form in the coming week, when the Senate preparedness committee, under Senate Majority Leader Lyndon B. Johnson, opens hearings on the U.S. missile program and what is wrong with it.

• **No Tax Hike**—The Administration encourages no talk of a tax rise—not at this point anyway. One well-placed source says the President intends to put it squarely up to Congress that the best way to finance the heavier military outlay is by reduction of nonessential expenditures elsewhere.

Like most other big questions for

the coming fiscal year, the Administration proposals for cuts in non-military spending have not been decided. But veterans' benefits, public works, farm subsidy programs, and such relatively lesser programs as slum clearance and urban renewal are being given a microscopic going-over.

One federal program is to be sacrosanct, insofar as the White House is concerned—foreign economic and military aid, this year a \$4-billion-plus item.

III. Impact Abroad

In his Oklahoma City speech, Eisenhower warned Congress to keep its economy ax away from foreign aid. But he did not indicate what the nature of his program for next year will be.

This week, Asst. Secy. of State Douglas Dillon, who favors more energetic aid efforts and who has been given additional responsibility for coordinating over-all aid policy in the State Dept., spelled out some of the Administration's plans.

Dillon said the Administration would ask Congress to:

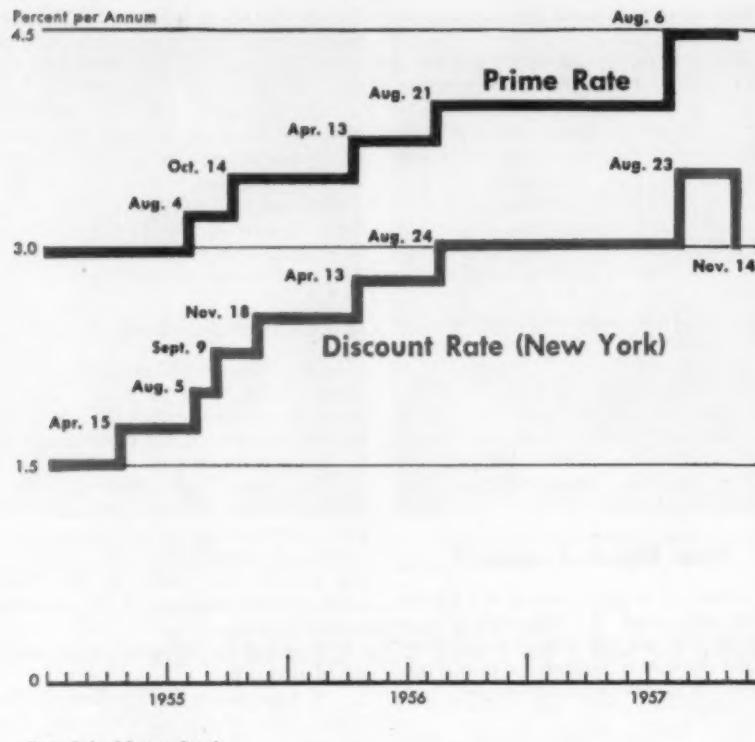
- Appropriate \$625-million for the second year of the development loan program for underdeveloped countries. This would be a net increase of \$325-million; Congress in the last session gave the Administration only \$300-million.

- Grant a five-year extension of the Trade Agreements Act, and give the Administration substantial new authority to cut tariffs.

- **Job for Nixon**—There is speculation that something bigger may be in the works. Vice-Pres. Nixon has taken on the assignment of drafting next year's aid requests and of shepherding them through Congress. The requests will go to Congress early—probably in February. The Administration acknowledges it will need plenty of time to sell its program.

Another sign of changing times in Washington was the arrival this week of Adlai E. Stevenson, twice the Democratic Presidential candidate, to be a State Dept. consultant on plans for the mid-December conference of the North Atlantic Treaty Organization in Paris. Eisenhower will attend the meeting, and there is a chance Stevenson will go with him.

This week, in the aftermath of Dulles' news conference, most Washington observers believe that the Paris meeting will deal almost exclusively with the basic need of the moment—closer military cooperation of the Allies to contain the Russian threat and prevent Communism's spread to the Middle East. This leaves for later discussion the long-range economic and political issues that are troubling the alliance.



Data: Federal Reserve Board.

2. Swing to Easier Money

The nation's monetary managers this week were carefully noting the reactions to their surprise move in approving a reduction in the discount rate from 3½% to 3%, after a long series of rises (chart).

This major shift in credit policy, the first move toward ease in almost three years, startled the financial community. Although the Federal Reserve Board had shifted to a "wait and see" policy earlier this fall, it had not given any indication that it was planning a major change. As a result, the cut in the discount rate was a complete surprise that had enormous psychological effect.

The timing of the Fed's announcement was the biggest part of the surprise. It came less than 24 hours after Pres. Eisenhower had announced that there would be more spending on defense, only a week after Fed Chmn. William McC. Martin, Jr., had justified the tight money policy in declaring that government cannot and should not "prevent declines" in business.

• **Sudden Change**—The move was clearly not one that had been planned long in advance. On the contrary, Fed officials had been saying they wanted no drastic shift in monetary policy. What they had hoped to achieve was a smooth adjustment carried out with a minimum of disturbance in the money market.

But all in a week, the Fed changed

its plans and decided to make a dramatic move. On Tuesday of last week, the Federal Reserve's Open Market Committee met in Washington. According to Fed officials, the appraisal of economic conditions, and of business sentiment, turned out to be fairly gloomy. By that time, the Fed already had preliminary figures of the index of industrial production for October, which showed a two-point drop to 142, the lowest level in 15 months. In addition, demand for credit at the nation's commercial banks in October was lower than anyone had expected.

That afternoon, Martin attended a meeting in the White House of the top-level "anti-inflation" committee (BW—Sep. 21 '57, p23). Besides Pres. Eisenhower himself, the group included Secy. of the Treasury Robert B. Anderson, the chairman of the President's Council of Economic Advisers, Raymond J. Saulnier, and Gabriel S. Hauge, the President's special assistant for economic affairs. This group also agreed that both business activity and business sentiment had definitely worsened. As one Treasury official put it, "The economic crosscurrents have given way to a preponderance of downward tugs."

• **Giving the Signal**—So by Wednesday the decision had been made. The precise timing was the Federal Reserve's

responsibility. Fed officials, by and large, would have preferred to signal a change by open market operations, and then follow up with a drop in the discount rate. But once the Fed had decided it had to shift, its timing was, in part, dictated by events.

One factor that led it to make a quick and dramatic shift instead was that the Treasury had a big financing operation scheduled for that Thursday, Nov. 14. The Fed felt that supplying funds through open market operations would take too long and might be misinterpreted. Only a fast move could give the Treasury—the nation's biggest borrower—the benefit of cheaper rates.

Then, during the day on Thursday, the Fed saw the disturbing stock market reaction to Eisenhower's speech (page 49). Although the President made clear that spending would increase and that a balanced budget might have to fall by the wayside, the stock market sold off. This was convincing evidence, to some Fed officials, that business pessimism was deep-seated.

Thursday afternoon, at 4 p.m., Fed officials in New York and Washington announced the drop in the discount rate.

• **Next Step**—The cutting of the interest rate that member banks have to pay for their borrowings from the Fed brought widespread reactions—especially since the fact that the rate was cut by a full half-point indicated that this was not a temporizing move but a basic change in line.

Nevertheless, the money market this week is awaiting the next step. There have been prompt changes in most short-term interest rates. The 91-day Treasury bill rate, for example, dropped from 3.47% to 3.14%. And the rates that the major finance companies pay on their direct placements is down $\frac{1}{4}$ of 1%, while dealers in commercial papers have cut their rates by $\frac{1}{4}$ of 1%.

But there has been no immediate change in the key business lending rate—the prime rate set by the nation's commercial banks. There is normally a close relationship between the discount rate and the prime rate; when one moves up, the other is quick to follow. This has been the case all during the tight money period which the Fed initiated early in 1955.

• **Leading and Following**—The nation's banks actually led the last boost made in the discount rate. They went up with the prime rate last August, and then the Fed announced it would "follow the market" and raise the discount rate.

Now the Fed's lowering of the rate is clearly intended to lead all other rates—and particularly the prime rate—downhill. Fed officials make clear that they no longer fear any inflationary pressure.

Instead, they are worried by a combination of declining elements. As they see it, it is not merely a drop in business spending that is occurring. Retail sales are also softening and both personal incomes and employment are sagging.

• **Still a Squeeze**—But though the banks hailed the Fed's move and agree that business is now in a decline, they still do not feel that the squeeze on credit has been lifted. They say that loan demand is way off, but they point out that deposits are also down, so that the banks continue under heavy pressure to find funds. The change in the discount rate has not made money more available—and that is the chief complaint of both borrowers and lenders.

At midweek, the Fed had not followed up on its first dramatic move. But Alfred Hayes, president of the New York bank, in testifying this week before the House Small Business Committee, said that discount rate action "is usually associated with related actions" of the Fed's Open Market Committee.

Although Hayes refused to elaborate, his remarks imply that the Fed will be supplying additional funds to the nation's banks, thus allowing the banks to cut down on their borrowings from the Fed. If this happens, then a cut in the prime rate—and in all other bank lending rates—is inevitable.

• **Differing Views**—The New York Federal Reserve Bank, one of the four regional Fed banks to initiate the latest action, had been against the August discount hike (BW-Aug. 17 '57, p28). Fed officials in New York this week feel the new move proves that they were right in the first place.

But not all banks—or all members of the board in Washington—agree. Some feel that the economy may turn around despite the pessimism in the business community. They consider it possible that the Administration may embark on a big spending program that will create renewed inflationary pressure, which would call for the continuance of a cautious credit policy. According to one Fed official, "We've been leaning against the wind, and now we should be damned sure we don't lean into it."

• **More Needed**—It's probable, though, that the Fed will have to move further. The fact is that it was evident early this fall that the seasonal upturn in demand for credit was falling far short of expectations. But the Fed, which normally supplies the funds for seasonal needs, limited the amount available to the banks. The Fed did not allow the market to set the rates, but prevented a drop to a lower level.

Now the Fed has signaled that lower rates are in order. But to insure a bigger supply of funds, it will have to go further.

Stock and Bond Prices

	Wednesday 11/13/57	Thursday 11/14/57	Friday 11/15/57	Wednesday 11/20/57	Percent Change 11/13-11/20
Dow-Jones industrial stock price index..	430.07	427.94	439.35	433.37	+0.8%
Dow-Jones corporate bond prices..	83.85	83.69	84.02	84.09	+0.3
U.S. Gov't 4% notes (Aug. '59-'61)..	100 29/32	101 2/32	102 4/32	102 18/32	+1.6
U.S. Gov't 2 1/2% bonds (Aug. '63)..	93 18/32	93 22/32	95	95 18/32	+2.1
U.S. Gov't 2 1/2% bonds (Jun. '67-'72)..	88 2/32	88 6/32	89 8/32	90 14/32	+2.7
U.S. Gov't 3 1/4% bonds (Jun. '78-'83)..	94 8/32	94 16/32	95 24/32	96 16/32	+2.4

Data: Dow-Jones Corp., N. Y. Stock Exchange.

3. How Markets Reacted

Wall Street this week is no longer proceeding solely on its own hook but is acting in response to the latest round of economic reappraisals.

In the stock market this past week, three separate and clear-cut reactions produced wide swings in prices before a new and still uneasy balance was reached.

• **Switch in Policy**—The initial response was prompted by Pres. Eisenhower's announcement that defense spending was slated to go higher. After a two-hour spurt, the market began selling off, ending the day more than two points below the previous close.

This selling indicated that investor sentiment, which had turned pessimistic well in advance of the downturn in business activity, was tending to look more at the dark side of any piece of news than at the bright. Government bond prices, which usually turn down when government spending is scheduled to rise, edged upwards, suggesting that investors were skeptical of the President's announcement.

• **Discount Rate**—After the market closed, the Federal Reserve made its surprise announcement of a lowering in the discount rate. The next day, the entire market took off like a rocket. In the first hour alone, the Dow-Jones industrial average jumped almost 10 points, and closed 11.41 points—or 2.66%—higher.

Bond prices had just as dramatic a rise. Most long-term government bonds scored gains that ran well past a point, the sharpest rises since 1953. And outstanding corporate bonds followed suit.

• **Bond Cleanup**—Moreover, underwriters were swamped with orders for the new issues that were still on their

shelves. For example, a syndicate headed by Morgan Stanley & Co., had marketed \$250-million in American Telephone & Telegraph debentures at the end of October. The day the Fed made its move, more than half of the issue was still unsold; by the next morning, the issue was cleaned out and selling well above par.

The bond buying rush was so great that underwriters burdened with unsold issues found themselves cleaned out at the end of the day as investors realized that the peak of high interest rates was officially over.

• **Following the Fed**—It is plain that the bond market was justified in its boosting of prices. During the past year, bond prices tumbled to new lows as the Federal Reserve's squeeze on credit sent interest rates soaring. In the past few weeks, bond prices began rising on rumors of an easing in credit policy and a definite slackening in demand for credit. But the movement was tentative and nervous, for the bond market had been burned by other rumors of Fed action that turned out to be wrong.

This time, though, the Fed moved faster and more aggressively than the market had anticipated.

• **Treasury Financing**—Perhaps the biggest beneficiary was the U.S. Treasury. It was scheduled to announce the terms of a \$10-billion refinancing operation on Thursday of last week. The betting was that it would have to put an interest tag of at least 4% on any issue it tried to market. But when the Fed acted, the Treasury postponed its offering.

Then, on Monday, it came to the market with a three-way offering of

\$12-billion. In its refinancing move, it offered a one-year 3½% certificate in exchange for nearly \$10-billion of maturing 3½% certificates; and in a new cash borrowing, it offered \$500-million of 17-year bonds and \$1.5-billion of five-year notes, both priced at 3½%.

This represents a considerable saving to the Treasury. At the same time, government bond dealers considered the offering so attractive that it would "sell like wildfire."

- **From the Heart**—Though the bond market's move seemed logical, the stock market's joyful response appeared more emotional than rational. For the Fed's lowering of the discount rate tended to confirm, rather than conflict with, investor pessimism.

On Monday, pessimism re-emerged in the stock market, with the average for industrials dropping more than four points. A more sober reassessment of the Fed's move undoubtedly played a part in this downswing. But, even more important, a weekend of soggy business statistics reinforced investor sentiment about the economy. In addition, Baltimore & Ohio RR cut its quarterly dividend in half—a jolt that hit the entire rail list.

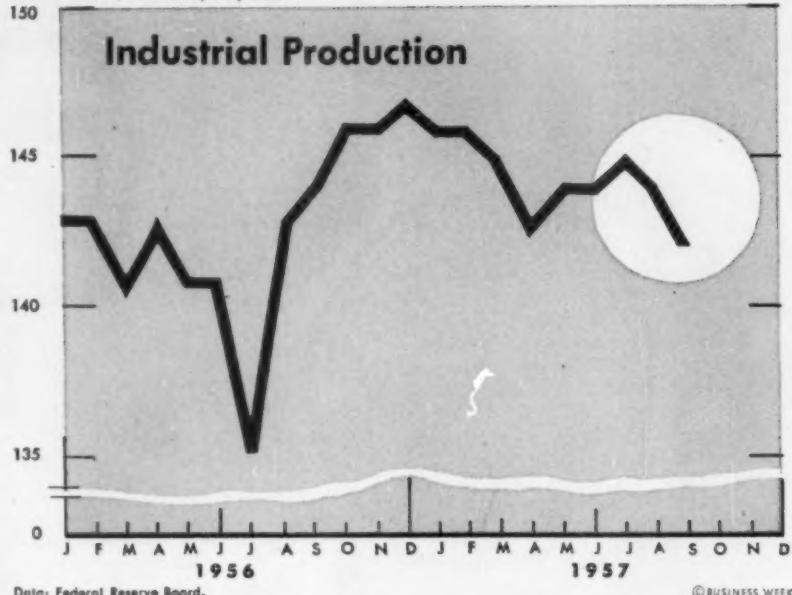
- **No Followup?**—The joy-ride in bonds slowed slightly, mainly because the market wondered whether the Fed would follow up its cheapening in borrowing costs by increasing the availability of funds.

This confusion faded on Tuesday when Alfred Hayes, president of the New York Fed, testified before a Congressional committee that further loosening steps may be on the way. Stock prices, which had been sinking fast, started to find support, and the bond market, now reassured that a bull market was in the making, regained its momentum.

- **Betting on Future**—There is no such positiveness in the stock market, nor is there likely to be. Investors are worried about the current decline in the economy. They feel bolstered in their worries by the Fed's admission and the Administration's awareness that the economy is in a downturn. They expect that the government will take more action soon—but, with some more sour notes probable in the economy soon, investors are not yet betting heavily on an upturn.

But the bond market has no qualms. In the short run, at least, it feels that interest rates will be lower and credit more plentiful. The clearing-out of inventory puts underwriters in a position to market more issues. Many borrowers who have delayed going to the market because of high rates are now expected to come forward. As one underwriter summed it up, "We are over the hump and in the clover at last."

1947-49=100, Seasonally Adjusted



Data: Federal Reserve Board.

© BUSINESS WEEK

4. Out Where It Shows

This week, the U.S. woke up abruptly to the fact that its economy went into a downturn somewhere between two and four months ago. At the moment, the recession promises to be a relatively small one—both shallower and shorter than the 1953-54 drop. But, for a variety of reasons, it also promises to make 1958 a singularly unpleasant year for a lot of businessmen.

The news of the past couple of weeks has brought official recognition of what economists, both in the government and outside it, have suspected for some time (BW—Nov. 9 '57, p27). The symptoms that now show are mild but unmistakable:

- The Federal Reserve index of industrial production dropped two points in October, from 144 to 142. This sudden spill is the first major move that this critical measure of the economy's health had made since it backed away from its December, 1956, peak of 147 (chart).

- Personal income in October declined for the second month in a row. And this time the drop was too big to be shrugged off as an odd statistical bobble. Total personal income slid off by \$1-billion, from an annual rate of \$346.6-billion in September. The main cause of the shrinkage was a smaller total of wage payments.

- Employment this fall failed to show the normal upturn. Instead, factory payrolls continued to shrink in September and October, so that they now stand 500,000 below the level of a year ago. Unemployment, which usu-

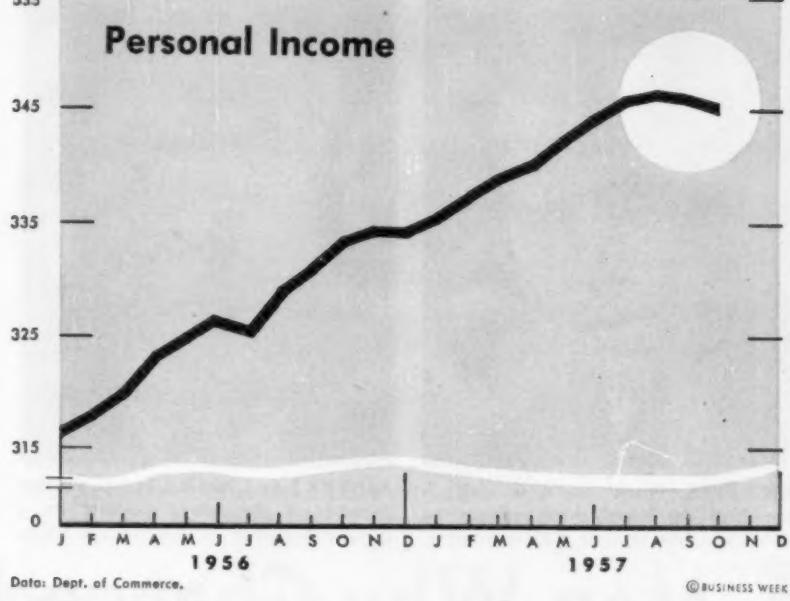
ally drops sharply in October, continued only about 44,000 below the September level of 2,552,000.

- **Spending Plans**—Underlining the implication of these symptoms is the stock market break. And providing both an explanation and a hint of more trouble in the future is the fact that the great U.S. investment boom of the mid-1950s has passed its peak. McGraw-Hill's survey of capital spending plans shows that business as a whole intends to cut capital spending cutbacks for new plant and equipment by 7% in 1958 (BW—Nov. 9 '57, p23). Manufacturing companies intend to cut by 16%.

This means that one of the big driving forces behind the prosperity of the past few years has begun to falter. Although business still is thinking in terms of a high level of capital spending compared with the past, much of the bounce has gone out of the investment side of the economy. Instead of driving business to greater and greater activity, capital spending will be releasing resources and making smaller and smaller calls on the economy.

- **Foreign Trade**—To complicate matters further, economists see trouble shaping up on the export side of the economic books. One element in the boom has been a high level of foreign buying, and a heavy surplus of exports over imports for the U.S. Through August, merchandise exports hit \$1.7-billion a month or better all this year, topping imports by an average of \$700-million.

Billions of Dollars, Seasonally Adjusted Annual Rate
355



Data: Dept. of Commerce.

© BUSINESS WEEK

In that case, we might have both more government spending and a tax cut. This would mean a swing to deficit financing and a general upward push for business—although the psychological effects of another federal deficit might be a problem all by themselves.

II. How Bad?

If the U.S. economy worked like an adding machine, you could feed in all these pluses and minuses, turn the crank, and come out with a definite forecast for the next year or 18 months. But the U.S. economy, of course, is not an adding machine. It is 170-million people who work and eat and worry and go to bed at night and get up in the morning.

- **Likely Course**—Nevertheless, recessions do tend to follow more or less standard patterns. If you try to classify this one and plot its future course—as economists, both in Washington and in the rest of the country, are now doing—you see something like this:

Industrial production will continue to slide in the rest of 1957 and the first half of 1958. The total drop probably won't be as much as it was in the 1953-54 recession, when the Federal Reserve index went down about 10% from peak to trough. The prospect this time is a total drop of perhaps 5% from present levels, which would mean something like 8% from peak to trough. This would take the index down in the neighborhood of 134 or 135.

Gross national product will go down, too, but by a much smaller percentage. One middle-of-the-road forecast is for a drop from the third-quarter 1957 level of \$439-billion to something like \$433-billion in the second quarter of 1958.

Unemployment will rise from the present 2.5-million to 4.5-million or 5-million. As always, unemployment will be more concentrated in some areas than in others. This will create pockets of distress, even though 5-million unemployed wouldn't represent a dangerous percentage of a civilian labor force that has varied between 66-million and 70-million in the past year.

Prices probably won't show much change, either up or down. The inflationary upsurge of the past year has already spent itself, and there will be nothing in the 1958 business picture to encourage a general upward movement. But, by the same token, there won't be anything to force a general rollback in prices. Some of the more sensitive commodities may drop, and there probably will be markdowns on some consumer goods, but the over-all effect of these cuts is likely to be offset by price increases in industries that have had to grant wage increases.

- **Turn of the Tide**—The turnaround in business will come somewhere in the

—A Business Sag

Now, the rest of the world is running into balance-of-payments trouble. Except for West Germany, all the Free World customers of the U.S. face the need to cut back on what they buy.

I. The Offsets

If you add all these things up, the question that emerges is not whether or not you can properly put the recession label on this fall's downturn. The question is how far and how fast this almost classic-type of recession will go.

Like all recessions, this one can be expected to feed upon itself. Falling incomes will be a drag on sales. Falling sales will prompt further production cutbacks; with lower production schedules, manufacturers will start trying to work off inventories. In this recession, however, there are at least three factors that will help put brakes on the slide:

- The Federal Reserve, with an uneasy eye on the production index and on the falling demand for credit, has switched to an easier money policy (page 48) without waiting to achieve its avowed aim of rolling back the past year's increases in consumer prices (the consumer price index, out this week, showed no change in October from its previous peak of 121.1). Monetary measures by themselves won't stop a recession, but at least the strangling effects of tight money won't be adding to businessmen's problems.

- One way or another, the federal

government will be making a larger contribution to the economy in the coming year. Present plans for stepping up defense spending will have a double impact. The first effect will be to stave off the cuts in military programs that were scheduled to take effect in the next few months. In the longer run—meaning the second half of 1958 and all of 1959—the stepup in defense will mean more government spending. If the increases stay in the range that Washington is now talking about—\$2-billion to \$5-billion a year—they won't be enough by themselves to offset all the minus entries on the economic balance sheet. But they will have a powerful stimulating effect.

- There are several sectors of the economy that show no signs of being ready to play follow-the-leader downward in the classic style that makes a small recession turn into a big slump. Total construction promises to increase next year, buoyed up by highway-building and public works. Economists are still hoping that homebuilding will show some revival, although builders are sour about the prospects for 1958 (BW-Nov. 16'57, p48). State and local spending is bound to rise. And the agricultural augurers think farm income in 1958 will be at least as good as it was this year.

- **Tax Outlook**—At the moment, any prospect of a tax cut seems to have gone down the drain. But the picture may look different if Congress meets next January in an atmosphere of rising unemployment and falling production.

middle of 1958. By that time, such plus factors as rising government spending and easier money should be making their weight felt. With incomes still high and total employment picking up again, consumers should be in a mood to buy.

If business has cleaned up any excess inventories and adjusted to a lower level of exports by that time, the stage should be set for recovery.

III. The Rough Side

There's always the possibility, of course, that the downswing could become cumulative and turn into something really nasty. Some economists see this as more than a possibility; they predict that what we are seeing is the start of the big postwar depression—more like 1929 than 1953. The odds are all against this, but the worry is there, and businessmen will have to live with it until the next upturn.

• **Already Overbuilt**—Even if the 1957-58 recession proves mild, it may have some features that make it feel particularly unpleasant for business. For the fact is that business today is geared up not for a recession but for further expansion. Manufacturers already have more capacity than the present market can keep running at what they consider optimum rates. In 1958, still more capacity will be coming into production as this year's capital spending programs are completed.

At the time of the McGraw-Hill survey, manufacturers reported that they were operating at about 82% of capacity. They consider a 90% rate ideal.

• **Problem Year**—This excess of capacity—and the new plant that will be ready early in 1958—will be keeping a lot of businessmen awake nights next year. Inevitably it will put a squeeze on profits. The heat will be on executives to increase sales by hook or crook and to cut costs by the tightest economy.

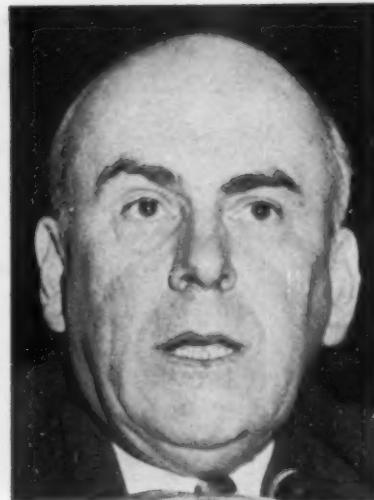
In the midst of all this, labor will be driving for higher wages, both to improve its income and to make up for the loss of overtime pay. Except in a few industries, there won't be much hope of passing higher wage costs along to the consumer in the form of price hikes. So business will be caught in a profit squeeze.

What it adds up to is a grubby year for the typical executive, a year that demands lots of hard work and worry, lots of hard selling, lots of string-saving and cheese-paring—all without much hope of keeping profits where they are, let alone increasing them.

As things look now, not many businessmen will be seriously hurt in 1958, but by the time they close the books on the year, most of them will be glad enough to forget it.



VICE-PRES. Nixon moved in early, is considered the biggest single influence on President's shift to more defense spending.



BANKER John J. McCloy, former Assistant Secretary of the Army, pressured for a spend-more policy for key defense issues.

5. Men Who Changed

In anything as basic as a shift in defense policy, only the President makes the decisions. That's the only way it can be. But it's plain that since the Russians launched Sputnik I seven weeks ago, the President is accepting advice from a different circle of confidants.

The result is a shift on the key issue of defense spending:

- Pres. Eisenhower now says defense spending will have to go up a "very considerable" amount. Up to that announcement—despite Sputniks I and II—the main weight of White House policy was on the \$38-billion ceiling on defense spending. The line was that we could have all the defense we needed, without any spending increases.

- To pay for the defense increases, some civilian programs will have to be cut. Details will be disclosed in the January budget message, and will cut into programs that heretofore have been defended by the Administration.

- **Behind the Shift**—Washington is boiling with speculation over who is behind the shift—who got to the President, who influenced him, who is likely to rise in prestige and influence as the new defense philosophy takes over.

The single biggest influence on the President—in Washington's eyes—is Vice-Pres. Nixon.

The loser—if there is one—is the White House circle of staff advisers. They lost because their timing was bad—not for any lack of zeal—now that the new ground rules are emerging.

Along with Nixon, is a wide range of officials in government and industry

advising the President to make the shift. Some are well known, others aren't. Among them:

- Defense Secy. Neil McElroy (page 120)—an early advocate of the spend-more line, as soon as he took over from Charles E. Wilson.

- John A. McCone, former Under Secretary of the Air Force, now president of Joshua Hendy Corp., who recommended greater centralization of power over missiles and satellites in the hands of a few men.

- William C. Foster, former Under Secretary of Defense and now vice-president of Olin-Mathieson Chemical Corp., whose hush-hush committee of top-level businessmen looking into defense issues formally recommended an increase in spending (BW—Oct. 19 '57, p. 41).

- Former Gov. Thomas E. Dewey and John J. McCloy, a Republican who has had many government posts, now chairman of Chase Manhattan Bank.

- **New Circle of Advisers**—Even pre-Sputnik, the President wanted new ideas on the future of U. S. defenses. He was fully confident that he had picked a good man for his new Defense Secretary, Neil H. McElroy, but he wanted some advice from people who might have a more acute view of our military position. This was when Foster's group was created.

But after Sputnik I, Eisenhower invited former Gov. Dewey to come to the White House for a talk. That event was caught by Washington reporters and other observers as a significant one. However, the mission Dewey came for—to give his views on



BUSINESSMAN William Foster played a big role with his recommendations for progressive increases in the military budget.

the Plans

U. S. defense policy—was overshadowed by his headline-making comment that Nixon would be a superb candidate for President in 1960.

Similarly, Eisenhower sought the face-to-face advice of McCloy, who had once been Assistant Secretary of the Army. Eisenhower also saw Foster, who with McCloy headed up the so-called Gaither group (named for H. Rowan Gaither, Jr., of the Ford Foundation) studying continental defense and long-range U. S. military policy.

Eisenhower began the shift, not overnight, but from one step to another following the Oct. 4 launching by the Soviets of Sputnik I. At the outset, he reacted in the same vein with Sherman Adams and other Administration spokesmen who said the satellite was a scientific accomplishment without significant military value. He staved with the men worrying about spending for a while.

But from the time Eisenhower used a New York speech on medical research to announce he would go to the people and report on our military status, the President began to move in the direction of his new advisers.

• **Spotlight on Nixon**—The shift is still predominantly a matter of tone and attitude—and here is where Nixon reacted more sensitively and with more political savvy than Eisenhower's White House staff.

While senior staff members such as Sherman Adams and Clarence Randall were still saying that Sputnik I was really not too important, Nixon was solemnly warning, "We could make no greater mistake than to brush off Sput-

nik as a scientific stunt." During this same period, White House staffers used such terms as "bauble," and "celestial basketball" even to try to counter Russia's obvious propaganda advantage. Eisenhower belittled its significance in his first press conference.

Nixon struck the note that the public apparently wanted to hear—not that we're brushing off the Russian achievement, but that we were moving quickly to offset it with progress of our own. This is now the prevailing tone throughout the Administration, and Nixon—as its first spokesman—has his trademark firmly established.

• **Rising to the Top**—There's more involved than a new choice of words.

The new spirit of urgency is bringing new men to the top, as some decisions are publicly announced and others are formulated behind the scenes:

• Secy. McElroy moved fast to turn the Administration around on basic military research. A few days after taking office, and a few days after Sputnik I, he said that money for research might be doubled—well ahead of the time the White House itself began to shift. This put McElroy out in front of what has now become a parade. He has moved cautiously, feeling he is still new to the job, but he reacts along the same lines as Nixon.

• McElroy also won an early relaxation of the old \$38-billion spending ceiling. One step—a \$400-million rise—has already been announced, effective in the first half of the current fiscal year. Another rise, this one \$200-million, will be announced for the second half. Eisenhower approved these on the recommendation of McElroy. They are not directly linked to the new policy, and probably would have occurred even without Sputnik, to meet rising costs. Now they fit into the larger picture of increased spending.

• McCone was called in to advise on the missile programs, when it became apparent that the Russians were ahead of us. He proposed creation of the two jobs that since have gone to Dr. James R. Killian, the President's Special Assistant on Science (BW—Nov. 16 '57, p42), and William H. Holiday, director of guided missiles in the Pentagon. He also recommended single managers for anti-missile and space projects in the Pentagon.

• McElroy took the lead again in approving the Army's Jupiter C as a satellite launching device—reversing policy that had placed the satellite program entirely in the Navy's Vanguard project.

• Foster and his committee of businessmen and business economists played a big role in the most important shift of all—the decision to spend more.

• **Recommendations**—Foster's group

has been taking a hard look at defense needs for months, starting long before Sputnik.

A report wrapping up the group's views was rushed to completion after the Sputniks were in the air and information about Russia's new medium-range missile capabilities was in hand.

Foster and his group argued for their findings before the President, then at the National Security Council, where they made a deep impression.

The recommendations imply increases in defense spending of something like \$2-billion next year, \$2-billion more the following year, and another \$1-billion the third year, so that in three years we would be spending \$5-billion more than we are now. This would come from a combination program of missiles, bombers, radar warning systems, anti-missile missiles, and nuclear submarines, and is devised to bridge the period between now and 1960. This is considered the period of greatest danger, due to the Russian edge in missile development. After this period, our own missiles should again strike a balance, and costs might actually decrease. Despite great initial costs, an intercontinental missiles system using hydrogen bomb warheads would be relatively cheap to maintain, and yet would be "absolute"—large enough to destroy Russian war capabilities.

• **Presidential Turnabout**—Aides who see Eisenhower regularly insist that no one person turned the President around.

"He turned himself around," one observer puts it. This man sees Eisenhower as allowing himself to take a sideline position during the economy period that began after submission of the budget last January. His circle of immediate advisers was recommending economy, and he gave them pretty much of a free hand. With the Sputniks, Eisenhower's deep, natural interest in defense and foreign affairs reasserted itself.

He is pictured now as actively in the center of every important development, pushing for decisions down the line.

He picked up the note of urgency as used by Nixon—to an extent that troubles other advisers. They wish, for example, he had not interpolated his comment on balanced budgets in his Oklahoma City speech. What he said was that the concept of a balanced budget would not be allowed to stand in the way of adequate defense. In context, he might seem to have implied that a deficit was imminent—whereas the Administration has every intention of submitting a balanced budget next January, and intends to keep it balanced thereafter short of some new and greater threats.



NSF DIRECTOR Waterman wants any new funds to go into scientific training.



SECY. FOLSOM insists federal school aid should be used for a "balanced" program.

6. Educating for Long Run

Schoolmasters and other education experts were flocking into Washington this week as the Administration began to come to grips with the problem of assuring bumper crops of young scientists to maintain the nation's military and industrial strength in the future.

Mostly, they came at the invitation of Lawrence G. Derthick, Commissioner of the U. S. Office of Education, and Secy. Marion B. Folsom of Health, Education & Welfare Dept. They have the job of sifting scores of suggestions from the nation's educators dealing with the many-sided school problem.

- **Goals**—Specifically, they're looking into ways in which the federal government can help give a missile age school system the things that Pres. Eisenhower—in his Oklahoma City talk—said it "should have." Eisenhower listed these requirements:

- Nationwide aptitude testing of high school students, coupled with scholarships for high-aptitude students to pursue scientific, professional studies.

- A program to stimulate good quality teaching of science and mathematics.

- Provision of more school laboratory facilities.

- Fellowships and other measures to boost the number of qualified teachers.

- **Estimated Cost**—Eisenhower's top education advisers are convinced that what is called for—at the most—is the shoring up here and there of what they feel is a basically sound U. S. educational system. Offhand, they figure that a surprisingly small amount of money would provide incentives for teachers and good students and supply

the necessary additional facilities for high schools and universities.

All this, if the educators got their fondest hopes, could probably be done with an outlay somewhere between \$25-million and \$50-million a year. But the educators aren't likely to get that much unless the Administration puts some hard selling behind its program.

No one in Washington this week really knows who will finally pull together the recommendations that the President sends to Congress. White House scientific adviser James Killian, National Science Foundation Director Alan T. Waterman, and Folsom all will have a say—but none of them so far has been given the assignment of drafting a program. Waterman is getting new attention in the White House and will pull a lot of authority. There may be a battle among officials, however, before the Administration decides on its proposals. The Defense Dept., for example, feels much more emphasis should be given to scientific and technical instruction to meet its future manpower needs.

- **Early Criticism**—Already, the President's suggestions have stirred bitter outcries of "federal control." New Jersey's Commissioner of Education, Frederick M. Raubinger, blasted Eisenhower's suggestion of a system of nationwide aptitude tests as "the most dangerous suggestion ever to come from Washington."

However, Federal Education Commissioner Derthick has given firm assurances that the testing program will be designed to strengthen traditional state and local control of education.

- **Difficulties**—Federal undergraduate

scholarships, another item high on the Administration's agenda, falls into an even more treacherous area of federal state relations. The problem is whether to allocate funds on the basis of population, need, or some other ground. Derthick also is wrestling with the question of requiring a financial "means test" of scholarship applicants and the demands of some small colleges that the government take steps to make certain they get their share of such federal tuition payments.

Money, almost all educational authorities agree, is the major cause of the teacher shortage—particularly in the science field where the competition from industry is sharpest. Teachers are wary of federal salary subsidies and would oppose any preferential treatment for science instructors. They would prefer to see federal money applied to school construction so that local school boards could allocate more of their school budgets to salaries. Teacher organizations also are backing legislation to allow income tax deductions for the money they spend on in-service and summer courses.

Certain to get Administration backing is a proposal for further expansion of the summer training institutes operated by the National Science Foundation. Currently, these provide refresher courses in science subjects for some 5,000 high school science teachers each summer.

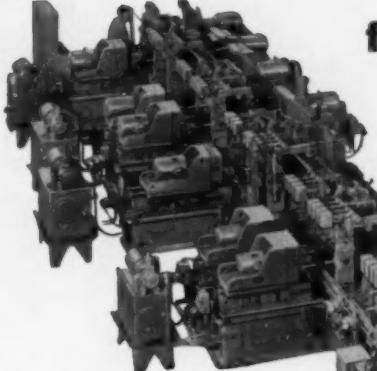
- **Question of Emphasis**—Folsom is perhaps the most vocal spokesman in high Administration ranks for maintaining a "balanced" educational program, although he willingly concedes that "we are not giving anything like as much mathematics and sciences as we should."

On the other hand, Waterman of the Science Foundation is one of the few government scientists with direct access to the President—and he would like to see the major stress of any new federal aid to education placed on the training of scientists.

If Folsom's final package of proposals fails to provide such funds, Waterman is ready to seek money for foundation scholarships to undergraduate scientists, augmenting the foundation's existing programs of fellowships for advanced scientific training. The foundation already has legislative authority to provide financial aid to undergraduates.

- **NFS Projects**—The National Science Foundation will seek a hefty increase over its present \$40-million-a-year budget—to provide federal grant aid to more nongovernment scientists working on basic research.

The foundation is looking also at the needs for a thorough overhaul of textbooks and other teaching materials for high school science courses.



factory equipped with

ALLEN-BRADLEY

Motor Control



BUHR
ECONOMATIC
transfer machine



The motor control panel used with this Buhr transfer machine is completely equipped with standard Allen-Bradley control units listed in the A-B Handy Catalog.

As operations required of huge automation machine assemblies multiply, so does the importance of the motor control "reliability." And for that reason Allen-Bradley—the motor control that assures *millions* of trouble free operations—is usually preferred above all others.

The simple solenoid design around which all Allen-Bradley motor starters and relays are built has only ONE moving part. There are no pivots and bearings to corrode and stick... assuring fast, consistent, contactor operation. And the double break, silver alloy contacts—standard through the entire Allen-Bradley line—are always in perfect operating condition. Specify Allen-Bradley control! In so doing, you can't possibly make a mistake.

Write for your copy of the new Allen-Bradley Handy Catalog—a 132-page guide to *quality* motor control.

ALLEN-BRADLEY
MOTOR CONTROL
QUALITY

Allen-Bradley Co., 1332 S. Second St., Milwaukee 4, Wis.
In Canada: Allen-Bradley Canada Ltd., Galt, Ont.

CED Takes Job

Congress flubbed its study of monetary system. Now private business will make objective study.

The nonpartisan Committee for Economic Development decided this week to take on a job that Congress had turned down earlier this year. It announced that it is establishing a national commission on money and credit to conduct a three-year study of the nation's financial system.

This move revives a plan that had been considered effectively buried. In his State of the Union message last January, Pres. Eisenhower had asked Congress to appoint a private, non-political commission to conduct a monetary study. This proposal met opposition on a number of grounds (BW-Mar. 2 '57, p34). Some congressmen felt that such a study was a prerogative of the legislature itself; others were against it unless it could be used to attack the Administration.

The Senate Finance Committee under Sen. Harry F. Byrd (D-Va.) finally set up an inquiry that was billed as a full study of the nation's financial condition. But when the hearings finally got under way, they turned out to be a political attack on the policies of the Treasury and the Federal Reserve. After bogging down in technical debating, the inquiry was indefinitely postponed.

• **Private Enterprise**—Now the CED is taking up Eisenhower's request. The idea is not entirely new for CED. In December, 1948, it urged the creation of a mixed commission of congressmen and private citizens to make a broad study of monetary policy. This proposal was actually passed by the Senate but failed to get approval in the House.

The CED's new plan for a private commission evolved after it became clear that Congress was not prepared to back a full-scale study. The plan gathered momentum when the Ford Foundation agreed to provide an initial grant of \$500,000.

• **Select Group**—The CED, which was founded 15 years ago, is a comparatively small organization, made up of only 150 businessmen and educators, plus a research staff. But its studies of taxes, debt management, price policy—have had a lot of influence among policy-makers in Washington.

In pushing the idea of a new monetary study, the CED feels that it is living up to its appointed task of undertaking research that is "thoroughly objective in character" and carried out "from the standpoint of the general

welfare and not from that of any special political or economic group."

• **Objective**—Unlike most of its other studies, this special investigation of monetary policy will be made entirely by an outside body rather than by the CED itself. In fact, CED is going to the extreme of appointing a committee to select the commission, which will then hire a research staff to carry out the bulk of the work.

This elaborate procedure is being used in order to insure both objectivity and independence—and to ward off attacks that it is just a stepchild of the CED. As the CED sees it, the new commission must be objective if it is to come up with a broad study that will be of use to Congress and the Administration in formulating monetary policy. It is expected that the study will take at least three years to complete.

• **Picking the Pickers**—The CED's first problem is to select the men who will serve on the commission. According to Donald K. David, former dean of Harvard's B-School and now chairman of the CED's board of trustees, the new commission will be composed of from 9 to 18 members chosen "without consideration of politics." David went on to say that the members of the commission will include men from the ranks of business, labor, agriculture, and education.

This cross-section commission is much more comprehensive than any other group that has met to consider monetary policy. The Aldrich Commission, which met in 1908-11, was a Congressional group assisted by members of the financial community. David himself mentioned, as a precedent for a private investigation, the monetary commission that was created in 1897 by a convention of businessmen and industrialists called together by the Indianapolis Board of Trade. Although it did not have Congressional sanction, some of its recommendations were embodied in the 1900 Currency Act, which brought basic changes to the national monetary system.

The proposed new group is designed to include labor representation for the first time. The Federal Reserve Board has an agricultural representative—Charles N. Sheppardson of Texas—but no one designated as a labor man.

To pick the commission, the CED has appointed a 10-man committee composed mainly of educators and economists. They include Arthur F. Burns, former chairman of the President's Council of Economic Advisers and now president of the National Bureau of Economic Research; H. Christian Sonne, chairman of the National Planning Assn., and Everett Needham Case, president of Colgate University.

Army Satellite

The Navy's Vanguard has a U.S. rival now—Cal Tech is grooming an Army moon for early '58 launching.

One more step was taken last week to hasten the day when a U.S. satellite joins the Soviet Sputniks in the skies.

The Jet Propulsion Laboratory at California Institute of Technology, in Pasadena, was told to go ahead with preparation of an instrumented earth satellite for launching by the Army sometime between Jan. 1 and Mar. 31. It will be shot into space by the Army's Jupiter C rocket, for which the Cal Tech lab is readying final-stage engines.

Once in its orbit, the baby moon will transmit data on cosmic radiation back to International Geophysical Year tracking stations. It will also report on temperatures and meteors.

• **Shuffle**—These plans are part of the Army's satellite program recently established as a supplement to the Navy's Project Vanguard. Originally, Vanguard was in four packages—to experiment with ultra-violet light, cosmic rays, magnetic fields, and meteor observation. Now the cosmic ray studies, initiated for the Navy by the physics department of the State University of Iowa, have been transferred to the Army. The jet propulsion lab will work with the Iowa scientists, and a replacement program for Vanguard has been set up at the University of Wisconsin in radiation effects.

• **Design Shifts**—One of JPL's jobs will be to redesign the satellite from a sphere to a bullet shape. This is necessary because it will be launched by Jupiter C rather than the Navy Vanguard. JPL will also add one of its own Microlock transmitters to the Minitrack transmitter that all IGY satellites will carry. With the Microlock system, designed and developed by JPL, a transmitter weighing only about 2 lb. can send messages maximum distance with minimum power. By combining the two systems, the satellite will be able to communicate both with the Minitrack network and with several JPL-designed receiving stations around the world.

This U.S. moon will be about 6 in. in diameter and 15 in. long. Encased in steel and painted white for visibility, it will weigh about 21 lb.

• **Zealous Staff**—It seems certain that JPL will go all out with its part in the earth satellite program. Scientists at the lab—which has a long record of service to the Army—have privately felt all along that Project Vanguard should have gone to the Army because of its edge in rocket experience.



Nickel makes this a pipe for tough jobs

Oil men are now waging their battles against Nature with a new "weapon"—high strength, low alloy steel drill pipe containing nickel.

Sand, rock, shale—and even corrosive salt formations that take their toll in abrasion and corrosion of regular drill pipe—make slow headway against this type of steel.

Take that string of drill pipe on the left, for example. It has drilled more than 300,000 feet of hole—close to sixty miles. And thirty of it in salt zones!

After ten years, inspection shows 52% of the pipe is still good for further use. Under similar conditions, only 13% of regular pipe was serviceable after 144,000 feet!

This pipe is made by Youngstown Sheet and Tube Company and sold under the

trade name of "Yoloy." Stronger than structural steel, Yoloy is resistant to corrosion, has good impact strength even at low temperature.

The use of nickel in Yoloy is one more example pointing up the value of nickel as an alloying agent.

When you have a metal problem in which corrosion, wear, stresses, fatigue, high or low temperatures are factors, talk it over with us. We—and nickel—may be able to help you find a way around the difficulty.

Write for "List A" of available publications. It includes a simple form that makes it easy for you to outline your problem for our study.

The International Nickel Company, Inc.
67 Wall Street, New York 5, N.Y.



INCO NICKEL
NICKEL ALLOYS PERFORM BETTER LONGER

In Business

• • •

A&P May Sell Stock to Public; Now Biggest Family Corporation

The Great Atlantic & Pacific Tea Co., the nation's largest family-owned corporation since Ford went public, will offer some stock to the public next year. Wall Street hears. The 98-year-old company ran up \$4.5-billion in sales in its last fiscal year, which puts it fourth in the country—behind General Motors (\$10.8-billion), Standard of New Jersey (\$7.1-billion), and Ford (\$4.6-billion).

Of A&P's 1,150,000 shares of voting common, heirs of founder George Huntington Hartford own 60% and the John A. Hartford Foundation owns 40%. A&P also has 935,812 shares of nonvoting common and 259,262 shares of nonvoting 7% cumulative first preferred. These are listed, and lightly traded, on the American Stock Exchange.

If A&P wants its common listed on the New York Stock Exchange, the nonvoting common would have to be converted to voting stock, and at least 300,000 shares would have to be owned in at least 1,500 blocks of 100 or more shares.

• • •

Asian Flu Vaccine to Become Part of Multi-Purpose Shots

Production of Asian flu vaccine has caught up with demand, just in time for the grand finale.

A couple of weeks ago, supplies were large enough for the government to end voluntary allocation. After next week, none but the new double-strength vaccine will be allowed to go on sale. But in January, this, too, will be merged into a polyvalent vaccine providing one-shot immunity against all known types of flu for which vaccines have been developed.

Actually, manufacturers have been turning out the polyvalent vaccine for months, but only for the armed forces. The monovalent Asian flu vaccine was produced to immunize huge numbers of civilians in a hurry.

• • •

Railroads Plan to Shrink Service While Airlines Seek New Routes

Transportation news this week pictured tactics of railroads and airlines in unusually vivid contrast.

On the land: The Baltimore & Ohio RR filed petitions in Maryland, Delaware, and Pennsylvania for permission to terminate all passenger service from the west at Baltimore instead of New York. The B&O pleaded the unimportance of its Baltimore-New York service—

six round trips a day, compared with 20 for the Pennsylvania RR, 13 for airlines, and 50 for bus lines. Between Washington and New York, airlines fly 81 round trips a day. The road adds that 90% of New York-Washington traffic goes by car on the new superhighways.

The decision must have been a wrench for B&O Pres. Howard E. Simpson, one of the few railroad chiefs who came up through the passenger side of the business. He has led in improving passenger service through dieselization, new cars, improved dining facilities. There are hints that B&O sounded out the feelings of the state agencies before making its formal request for discontinuance.

This week, too, the New Haven RR's Pres. George Alpert announced that he will seek state subsidies in New York and Massachusetts legislatures to ease the road's \$15-million annual deficit on passenger service, chiefly commuting. The New Haven hauls 35,000 New York and 15,000 Boston commuters each day. Alpert wants public authorities to operate this service, contracting with the railroad for the use of tracks and equipment.

In the air: For the first time in 20 years, a new trunk carrier got a CAB certificate. Pres. Eisenhower and CAB awarded a slice of the heavily traveled New York-San Juan route to Trans Caribbean Airways, headed by O. Roy Chalk of Washington. This former non-sked line won out over Capital and National Airlines. It promises to inaugurate service within 90 days.

The President also approved permanent authority for Eastern Air Lines' routes to San Juan from New York, Newark, and Miami, and authority for Pan American World Airways to add Boston, Philadelphia, Baltimore, and Washington to its present terminals of the Puerto Rico route—New York and Miami.

Seaboard & Western Airlines, air cargo specialist, applied to CAB to extend its European route eastward to Berlin, Warsaw, and Moscow.

In between: Axel Leonard Wenner-Gren, famous Swedish industrialist (BW-Mar.16'57,p61), put up \$500,000 for control of Monorail, Inc., of Texas (BW-Feb.25'56,p28). He promises another \$2,225,000 for promotion.

"I'm putting my money on monorail," he says, "because it's the coming form of transportation. It's too expensive to go underground for public transportation, and streets are too congested for it. The only way you can go is up . . . Besides, I expect to make some money out of it."

• • •

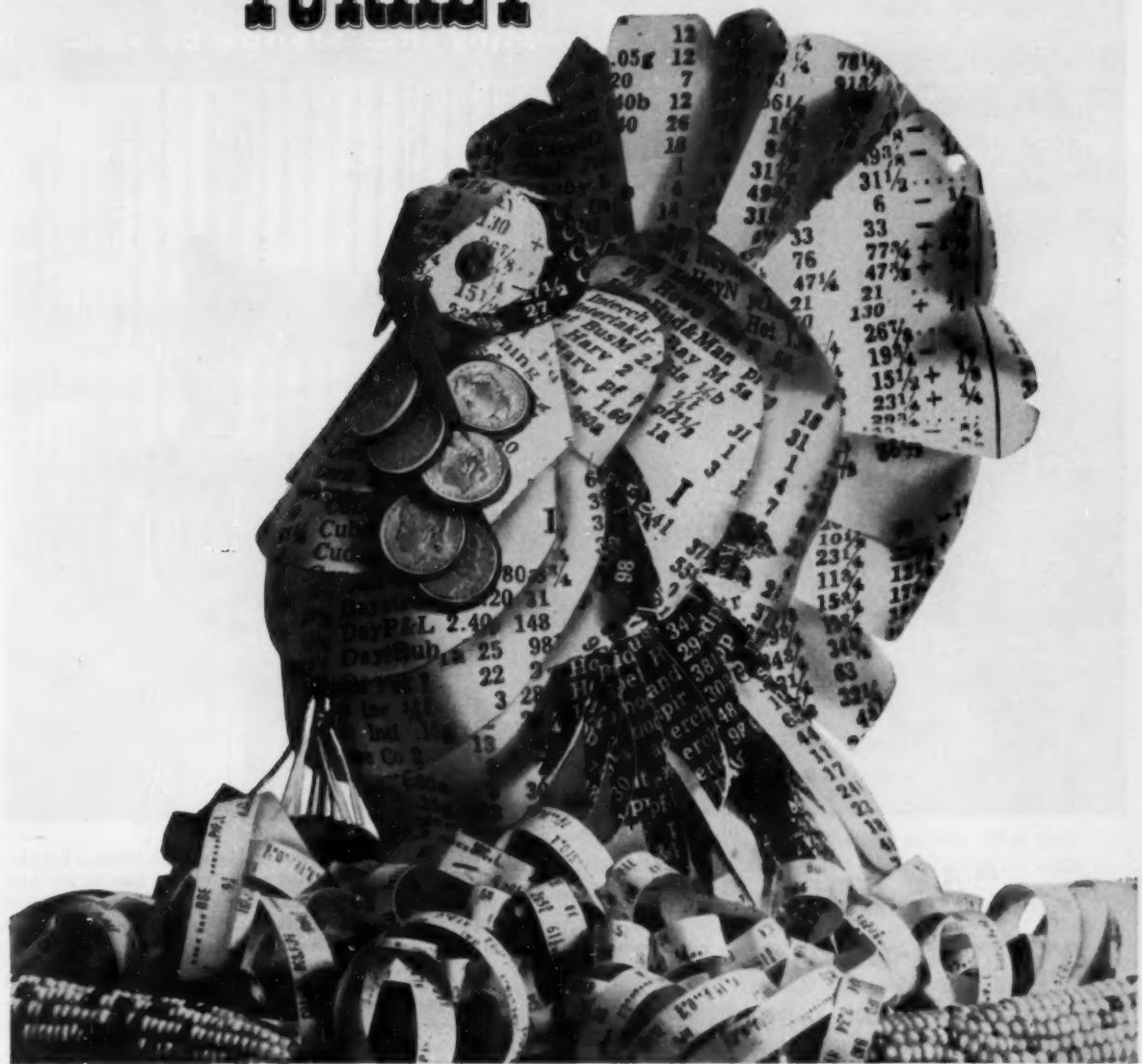
Business Briefs

Steel business is slow, and the iron ore boats on the Great Lakes are going into their earliest hibernation since the war. More than half the fleet is already laid up.

Evidently those foreign cars are here to stay. U.S. Rubber Co. will start making tires for them next month.

It had to happen: "Sputnik" was registered in Tennessee as the trademark of a vodka produced by Double Springs Distillers, Inc., of Bardstown, Ky. Slogan for the brand: "Fellow traveler—out of this world."

let's talk **TURKEY** about your investments



The season of harvest celebration is a good time to plan for the future growth of your investment program. Would not the skilled, professional cultivation of your program yield greater results over the long term? The individualized Investment Services of this Bank are available to accounts of \$100,000 upwards. A booklet, "If You Own Securities," briefly describes these Services. Write for a copy to

THE BANK OF NEW YORK

Main Office: 48 WALL ST. ★ Uptown Offices: 530 FIFTH AVE. ★ MADISON AVE. AT 63rd ★ MADISON AVE. AT 73rd

New York's First Bank • Founded 1784

MEMBER FEDERAL DEPOSIT INSURANCE CORPORATION

LIBERTY MUTUAL®

The Company that stands by you®



“As good as any two-armed man!”

ANOTHER LIBERTY
REHABILITATION STORY



REHABILITATION OF BADLY INJURED WORKERS.
Of thousands treated in Liberty Mutual Rehabilitation Centers, 85% were improved—and of those, 82% went back to work. By preserving human values, Liberty helps reduce insurance costs.



LIBERTY'S "EXPENSE RATIO" on Workmen's Compensation is lowest of any general casualty company operating nationwide. Liberty has returned \$422,111,000 in dividends to policyholders. For 20 years—the nation's largest writer of Compensation.

THE DAY AFTER Robert Baker's accident, a Liberty Mutual rehabilitation nurse visited him in the hospital and heard the full story. A large stamping press had caught and crushed his left arm. The necessary immediate amputation left only a six-inch stump.

A long period of healing followed. When Baker entered the Liberty Rehabilitation Center about five months after his accident, the big problem was to get enough motion in his very short stump so that he could use an artificial arm.

Liberty therapists gave him daily attention. In three weeks he was ready to be fitted for the artificial arm. When it was complete, he had to learn to use it. Therapy continued until he was adept.

Eight months after the loss of his arm, Baker went back to work at the same pay as before. His foreman says, "On the job he's as good as any two-armed man in the plant!"

This story shows how Liberty's rehabilitation methods help reduce the cost of compensation insurance—and restore injured workers to useful lives.



LIBERTY MUTUAL INSURANCE COMPANY
LIBERTY MUTUAL FIRE INSURANCE COMPANY

Home Office: Boston

Insurance for: Workmen's Compensation, Group Accident and Health, Automobiles, Liability, Fire, Marine, Crime

WASHINGTON OUTLOOK

WASHINGTON
BUREAU
NOV. 23, 1957



Washington will dish up business stimulants in the months ahead.

Some will be psychological, such as reassurances from Eisenhower and lesser Administration officials on the economy's basic soundness. Watch for the January Economic Report to Congress. It will acknowledge that a downturn is under way (page 50). But it will be optimistic about recovery.

Other moves will be more tangible—easier credit and a spending rise.

Start with spending. Eisenhower announced last week that the arms race with Russia—the effort to overcome the Red missile advantage—will cost more.

The rise next year will be "moderate," maybe no more than a billion or so. But the history of new government spending projects is that they tend to grow and grow and wind up far in excess of original estimates.

You can discount the talk of big spending cuts as an offset. Next year is an election year, which means that public works will be popular. This year, Congress had economy on its mind and held back on spending. But the word already is being passed on Capitol Hill that 1958 will be the year "to do things for the people."

More credit will be pumped into the economy. The cut in the Federal Reserve discount rate (page 48) will be followed by other moves.

The expectation is that the Fed, after being tight on credit this year, will gradually reverse itself. It can't just turn the economy up, automatically. But it can and will see to it that banks and other big lenders have the funds to meet credit demands.

Housing will be a beneficiary. There's little thought at this time that the housing boom will be resumed at an early date. But officials do talk of a bit stronger market next spring.

—•—

Note this week's agricultural outlook conference, the first of the government's fall surveys of business prospects.

On the over-all business trend, there was general agreement that a sidewise movement has set in and will show a down-tilt as time goes on. But the decline is expected to be short-lived, with a pickup sometime in the last half of the upcoming year.

The farmer as a customer for business was pictured in a fairly strong position. The farm income trend, which has shown a gradual rise for the past two years, will level out—lose the gain.

Per capita farm income will be on the rise, however. The reason is that the trend toward fewer farmers and bigger farms is still running.

Retail food prices will trend upward, reflecting higher production, processing, and distribution costs.

Farm land values will continue to rise. They climbed about 8% in the past year and about 20% in the past four years. This is interpreted as an expectation that a rising population will make farming more profitable over the long pull.

WASHINGTON OUTLOOK (Continued)

WASHINGTON
BUREAU
NOV. 23, 1957

On taxes, you will be plagued with conflicting speculations.

Arguments for cuts will show up from time to time. The reasoning behind them is that any reversal of the business trend will depend in large measure on rising consumer spending. A tax cut would be a way of freeing extra funds for spending. But odds are against any reductions in 1958.

Tax hikes will be talked up, too. But here again, the odds are against any action in the near future. As already noted, the rise in defense spending will be gradual for a year or so. And Eisenhower himself has commented that a balanced budget can't stand in the way of defense needs.

Congress will raise the debt ceiling if the Administration asks for it. Opponents find their position weakened by Russia's Sputniks, which are forcing the defense increase.

The prospect is that the statutory limit on how much the government can be in debt will be boosted from the present figure of \$275-billion to at least \$280-billion. The White House may ask even more.

This doesn't mean any prolonged deficit financing. The fact is that Eisenhower will continue to emphasize a balanced budget. But the present ceiling is so tight that the Treasury has little freedom in decisions as to when it will go into the money market and how much it will raise. All the same, there's little doubt that once the ceiling is lifted, the government will become more openhanded in its spending.

— • —
Eisenhower's circle of advisers is broadening. White House staffers insist there's no real importance in this. But other Washington sources attach considerable significance (page 52).

Look at how the program for missiles got going. For weeks after Russia's first Sputnik, there was an insistence—amounting to a "party line"—that no change in defense spending was in sight.

Then, you got a sudden switch. In his Oklahoma City "reassurance" speech, the President announced he would back increased spending and implied that, if necessary, he would push it to the point of an unbalanced budget. This was a sharp shift from the "official line."

— • —
Will Sherman Adams resign as the President's right-hand man? The White House scoffs at the idea. But staffers find it hard to hide their regret that Adams dismissed Sputnik No. 1 as a sort of space basketball. One thought to keep in mind: If Adams does leave the White House, his successor will not be the same sort of Assistant President. Republicans want, if they can, to remove this sort of target for Democratic attacks.

— • —
Nixon's star rides higher and shines brighter. He was quick to see the implications of Russian scientific achievements. While members of the White House team were talking in a deprecating vein, Nixon was out "viewing-with-alarm," as the politicians put it. He was calling for more effort. He talked of the need for more defense funds and the postponement of tax cut hopes.

He looks more than ever like the 1960 GOP hope. The Democrats feel that circumstances have given them some issues—on defense and maybe on business. Their problem now is a candidate with national appeal.



A wonderful underground river keeps your community alive! Power and communications, light and life-sustaining energy surge through an almost inconceivable complex of cables and conduits that make possible our way of life.

Throughout the nation, millions of miles of Simplex electrical cables are part of this great system. Typical is Simplex Anhydrex XX, considered the ideal all-purpose cable for high voltage use.

Across a continent or an ocean, underground or under-water, in the transmission of electricity the first name for reliability is Simplex; in engineering, service and supply. You too can rely on it . . . **SIMPLEX WIRE AND CABLE CO.**, Cambridge, Massachusetts and Newington, New Hampshire.



Simplex

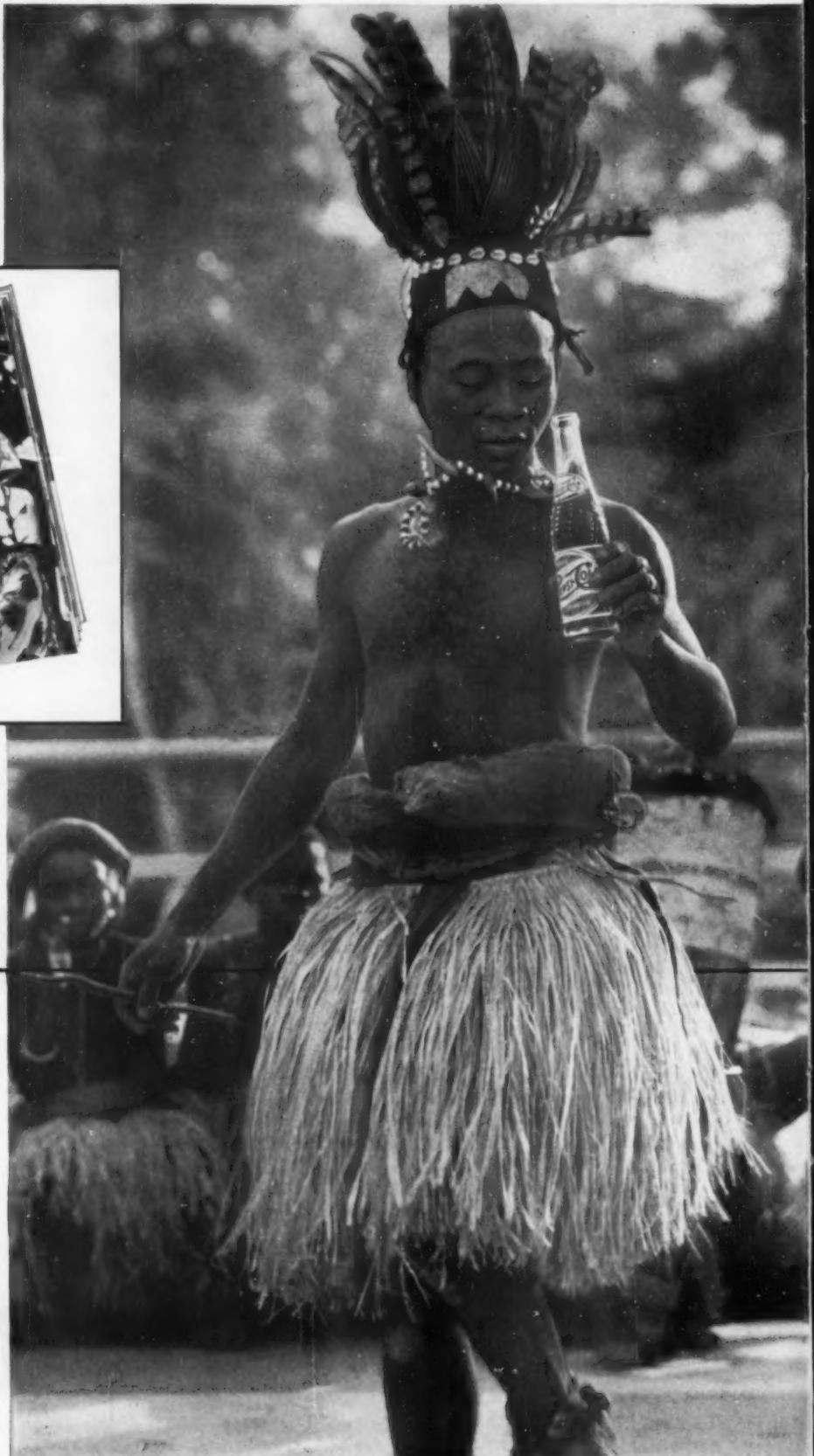
Highest quality cables for: Mining • Power & Lighting • Construction • Transportation • Communications • Signalling

PHOTOGRAPHY AT WORK
No. 30 in a Kodak Series



Pepsi-Cola International Panorama, a magazine of places and people, reaches people around the world, builds recognition for Pepsi-Cola as a product associated with the better, happier side of life.

What better way to say
people take naturally to
"Pepsi" whether in Leo-
poldville or Liechtenstein.





This picture leaves no doubt that Dutchmen are neighborly.



Here comes a parade—and "Pepsi" gives a welcome lift to a young spectator.

Photography speaks in every language

To tell its story in 75 countries, Pepsi-Cola puts pictures to work to add meaning to the product's global billing as "the refreshment of friendship."

To build up an atmosphere of friendliness and understanding in markets around the world, Pepsi-Cola International publishes "Panorama"—and gives the brunt of the job to photography.

Photography knows no language barrier. It is clear to young and old alike—appeals to everyone whatever his station.

With photography, people are real, situations are authentic and convincing. This is what makes photography such a powerful salesman.

Large businesses and small can use this powerful salesmanship—can also use photography to cut costs and save time in many other ways. It can help with problems of product design—can watch quality in production. It trains. It cuts office routine. It does all the jobs in the list below—and more. Check them over. You'll see that it can work for you, too.

EASTMAN KODAK COMPANY, Rochester 4, N. Y.

Here are some of the places Photography can work for you—a few minutes with this check list can give you suggestions that could mean extra profits

- Management**—Progress photos, Stockholder reports, Record preservation, Information distribution, Control and Organization charts
- Administration**—File debulking, Purchase schedule, Office layout, Interior decoration, Form printing
- Public Relations**—News releases, Institutional, Community relations, Public service
- Personnel**—Identification photos, Job description, Orientation, Payroll records, Employee personnel records, House organs, Health records, Bulletins
- Training and Safety**—Safety campaigns, Teaching, Reports, Fire prevention
- Engineering**—Drawings, Specification sheets, Drawing protection, Pilot radiography
- Production**—Time study, Work methods, Legible drawings, Schedules, Process records
- Product Design & Development**—Styling, Consumer testing, Motion studies, Stress analysis, Performance studies
- Advertising**—Advertisements, Booklets, Displays, Dealer promotion, Television
- Service**—Manuals, Parts lists, Installation photos, Training helps, Records
- Research**—Reports, Flow studies, Process charts, Library, Photomicrography, Electron-micrography, x-ray diffraction, High-speed motion pictures, etc.
- Testing & Quality Control**—Test setups, Reports, Standards library, Radiography, Instrument recording
- Warehousing & Distribution**—Inventory control, Damage records, Waybill duplicates, Flow layouts, Packing & Loading records
- Purchasing**—Schedules, Duplicate engineering prints, Specifications, Component selection, Source information
- Sales**—Portfolios, Dealer helps, Sales talks, Price & Delivery information
- Plant Engineering & Maintenance**—Plant layout, Repair proposals, Piping & Wiring installations, Progressive maintenance, Record debulking

Send for free booklet "Photography U.S.A." This book shows many of the ways industry is profitably using photography. It is free. Write for your copy today.



Kodak
TRADE MARK



TELEPHONE CLERKS are only salespeople in Hazan's Telephone Supermarket in Los Angeles; their job is to help housewives do the regular household grocery shopping.

Supermart

Hazan's Telephone Supermarket in Los Angeles appeals to upper-crust trade with an order-by-phone, quick delivery operation.

Pictured on these pages is a store that figures it is unique in this age of self-service and mass merchandising—a supermarket whose wares are taken to the customer, not vice versa.

Located on the west side of Hollywood in Los Angeles, Hazan's Telephone Supermarket is actually a retail warehouse. It caters particularly to the



ORDER-FILLERS—eight of them—get the phone orders as they are routed by chute and conveyor belt to the four main departments.

INDIVIDUAL ORDERS are collected at front of warehouse, and shipped in one of 11 route trucks that serve a 15-mile radius.

Where the Customers Stay Home

carriage trade in Beverly Hills, Westwood, Brentwood, and Pacific Palisades—although it will deliver anywhere in about a 15-mile radius.

• **Hope Come True**—In the year since it opened last Nov. 1, this supermarket on wheels has apparently succeeded in proving what its sole owner, Morris A. Hazan (picture, page 68), hoped would be true: A completely telephone-type operation appeals to people in the upper middle income group and above who find the enchantment of supermarketping wearing thin.

"I figured," Hazan says, "that crowded supermarkets just might be

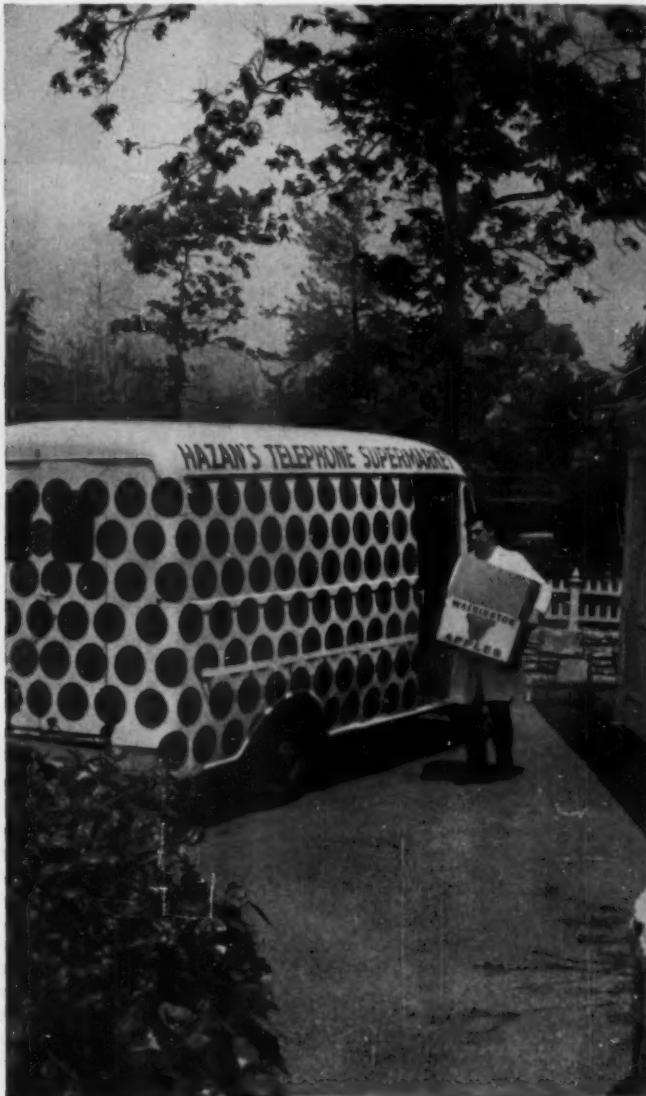
irritating enough that customers would be willing to buy groceries sight unseen and pay a small service charge for delivery."

Hazan's advertising has hit hard at the irritant factor in going out to buy groceries—the time-consuming trips to the store, especially in bad weather, the crowds and waiting in checkout lines, the heavy boxes and parcels to carry.

• **What Led to It**—Actually, Hazan's experiment was more than just a good guess. He'd been in the retail grocery business all his life, 15 years ago set up a conventional West Side Market. There he always emphasized the service

side of his business, since there never was much store traffic. His trading area is a lush one for the luxury market—supporting such high quality competitors as Jurgensen's Gourmet, much of whose business also is by phone (BW—Sep. 15 '56, p114).

At first, though, Hazan tried to compete with the volume supermarkets. But that proved impractical for his kind of operation. Today his prices run a cut above the usual supermarket quotations all the way along the line, occasionally as much as 10% above. But Hazan claims he offers better quality goods—his meats are aged, something an



HOME DELIVERY reaches the customer within a few hours after store receives phone order. Charge is 50¢, regardless of distance or size of the order.



OWNER Morris A. Hazan has made career of grocery business, thinks uppercrust customers will pay for delivery.

WEEKLY MAILINGS to Hazan's 3,000 customers serve as buying guide, stress quality items—and prices.

ordinary supermarket can't afford—and his daily purchases of produce are top quality. Even so, Hazan's prices run about 15% below Jurgensen's and other conventional-type quality food outlets in the area.

• **True Supermarket**—Except for the absence of store traffic and the somewhat higher prices, Hazan's is a supermarket in every way. It figures it competes in most lines with the average independent supermarket—the kind that tends toward a little better quality than the average big chain. Volume runs about \$2.5-million a year—\$1.5-million in food, \$1-million in liquor—a substantial business by any measure. Its estimated 3,000 customers make the store a far cry from the pre-supermarket corner grocery delivery store.

On its shelves are a pretty complete line of the usual brands of packaged goods. Some people use the store only for liquor purchases, others just for meat. Right now Hazan's is starting to market meat in package lots to go to home freezers—selling it at cost plus 10¢ a lb. for freezing and handling.

• **The Soft Sell**—The way the store works is simple enough. A phone customer is connected with one of 10 female order clerks. The customer already has a list of choice items that is sent in the mail each week to all customers. This partial buying guide is supplemented by the clerks who sit beneath a large blackboard that shows other store merchandise, some of it being pushed that week. The clerk's job is to be helpful but not insistent.

Hazan's doesn't try to stimulate impulse buying over the phone—and makes

a big point of the fact in its advertising. Its ads emphasize that customers don't end up spending twice as much as they intended, as sometimes happens in conventional supermarkets.

"The clerks," says Hazan, "must suggest in a way to make them helpful—not pushy."

• **Delivery**—When an order is completed by the clerk, it goes by chute and conveyor belt to the rear of the two-story, 12,000-sq.-ft. warehouse. Grocery, meat, liquor, and produce items are filled separately. Then all come together at the front of the warehouse, where they are coordinated into one box. Meat and frozen foods are packed in dry ice—and finally, the complete order is put on one of the 11 route trucks.

A phone order before 9:30 a.m. is delivered by 2 p.m.; one before noon gets to the house by 5 o'clock. Afternoon orders are delivered the next morning. There's a flat delivery charge of 50¢, regardless of distance.

• **Collecting**—About three-fourths of Hazan's customers pay by the month. Most of the rest pay by what is termed "accommodation charge"—that means they are supposed to send a check within 24 hours of receiving their order. A handful pay by cash.

The minimum order runs about \$15—though Hazan's will accept smaller orders at first while the customer gets the knack of ordering in enough volume by phone. Good customers, too, rate small emergency orders. Lately, the store has been allowing customers to phone in orders an hour or two ahead of time, and then pick them up themselves in front of the warehouse.



Most customers, Hazan figures, do all their supermarket buying through his store—especially those in the highest income brackets. Some order once a week, others two or three times. One customer calls once a month—with a customary order of about \$100.

Physically, almost all of the two-story space is taken up by shelving and other facilities of the operation's four departments. All of these feed out to the loading docks. The only fancy office is Hazan's, although another is being refurbished as a display room for liquor—the company does a heavy trade with companies for business gifts, especially around Christmas.

• **Ideas for Future**—Hazan's plans for expansion aren't firm. During the past year there has been a lot of experimentation—in the way incoming orders are handled, warehouse layout, and the like. The store doesn't handle much in the way of nonfood items, but since opening has tried special seasonal products—for instance, a portable barbecue sold in big volume in the spring, at \$19.95 and \$29.95.

If the store does expand, it will be in such places as Pacific Palisades and the San Fernando Valley, where the quality-minded customers can be tapped.

Maurice Tragen, vice-president and liquor manager, thinks Hazan's idea can be adapted to other cities—but cautions that anyone trying it should have a heavy background in the service end, especially the credit and delivery phases.

But, he says, so far he and manufacturing representatives with whom he does business haven't been able to turn up a comparable operation. **END**

The legendary **Firebird**, the Phoenix, rose young and strong again and again from flames . . . This is the new Norton Firebird — symbol for the exciting new fused materials made in Norton's electric furnaces.



BORON: gift of the Firebird

Comparable to the ancient Firebird legend is the wonder-working energy of Norton electric furnaces. Here, raw materials are transformed into new, high-purity compounds of tremendous importance to scientific and industrial progress.

For example, Norton began development of stable boron compounds a quarter century ago and now provides boron as the nitride, the carbide or as borides and experimentally in its elemental form.

Norton electrochemical engineering may be a valuable aid to your own processing. It enables users to improve manufacture with an increasing variety of boron-rich compounds, including intermediates for chemical processing and additives for metal alloying. Technical cooperation is available with all these *Gifts of the Firebird*.

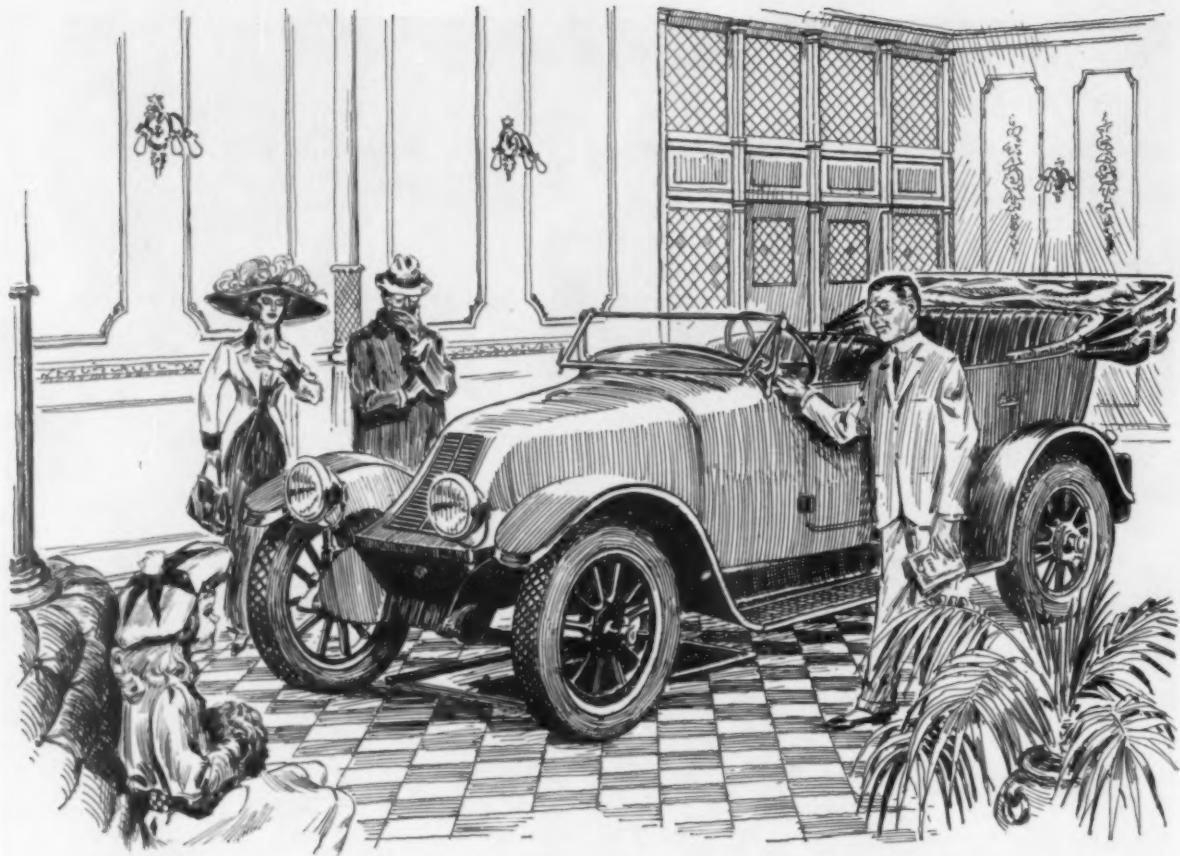
Write to NORTON COMPANY, Electrochemical Division, 950 New Bond Street, Worcester 6, Massachusetts.



ELECTROCHEMICALS

Gifts of the Firebird: compounds of silicon • zirconium • boron • aluminum • magnesium • titanium • chromium including many borides • carbides • nitrides • oxides.

MAKING BETTER PRODUCTS . . . TO MAKE YOUR PRODUCTS BETTER



The Thrill of Owning the Latest Model

... WHEN UOP DEVELOPED ITS FIRST REFINING PROCESS

The proud buyer of this new model Franklin back in 1915—the year UOP first made its thermal cracking process available—was just as excited about it as the new owner of one of today's streamlined, super-powered cars.

Through the intervening years, as new model superseded new model, Universal has gone steadily forward developing new and improved refining processes, making them

available to refiners everywhere, helping the industry to provide the constantly better motor fuels essential to progress in automotive performance.

Today, refiners all over the world depend on UOP for the processing methods and techniques required to improve their products . . . and to make more of them, better and cheaper, so that they can be universally used and enjoyed.



UNIVERSAL OIL PRODUCTS COMPANY

30 ALGONQUIN ROAD, DES PLAINES, ILLINOIS, U.S.A.

Forty Years Of Leadership In Petroleum Refining Technology

Downtown Loads Its Heavy Guns

- Latest figures leave no doubt central cities are falling behind suburbs and shopping centers in retail race.
- But downtown insists it's far from dead—and in city after city it's readying bold moves to fight back.
- Yet size and congestion are tough enemies to beat—so the experts don't look for many drastic changes.

In the uneasy mid-1950s, a question that presses more and more insistently on retailers is the familiar postwar poser: Where is the big-city store heading? Are the shopping centers to take over the main retail function? The questions concern all downtown U.S., whether it's a Chicago Loop, a New York City 34th Street, or a Podunk Main Street.

Actually this is just one phase of a much larger question. Where is the city heading, anyway? What kind of market will it offer in the next decade? Who will live there, work there? What will its function be? For few people are yet ready to assume that the city will cease to serve a function.

• **Ferment**—These are not new questions. What is new is the urgency with which planners, including merchants, are putting their minds to the problem. Forward-looking cities here and there have already made progress in revitalizing their central hubs. It's a rare community that doesn't have some kind of plan in the works, though it may be no further than the dream stage.

Only last week, the U.S. Chamber of Commerce announced that it will call a meeting next year to coordinate efforts to revitalize downtown on a national scale. National Retail Dry Goods Assn., whose Downtown Development Committee has worked for the past year to arouse merchants to the need for action, is closely abetting the chamber's step. Announcement, in fact, came at a Downtown Clinic in Newark, N. J., sponsored by NRDGA and the Newark Economic Development Committee.

• **Where the Signs Point**—Plenty of figures show the direction of the wind. Best index is the 1954 Census of Business. According to it, only three of the 10 biggest cities reported an increase in retail sales between 1948 and 1954 for their central districts: New York, up 4.9%; Cleveland, up 5.5%; and Boston, up 2.7%. And these gains are piddling set beside the New York metropolitan area's 25.4% over-all gain, for example.

For later statistics, Federal Reserve figures offer some clue. In Chicago,

the Loop dragged by 4% for the month of September, 1957, while "other Chicago" was up 12%. In Los Angeles, downtown department stores accounted for 22% of total area department store sales this year—against 42% in 1947. New York City department store sales for nine months were off 2%, against a 6% gain for the metropolitan area; meanwhile Nassau County, on nearby Long Island, rang up a 72% gain for the first 9 months.

Such figures are to be taken with plenty of salt. Add one big department store branch to a shopping center, say, and suburban sales go soaring. Besides that, percentage gains are often misleading, since suburban volume may have been tiny to start with. Also, in some cities only a few stores report to Federal Reserve. But there's no disputing that the big retail growth has come from the suburbs and the shopping centers.

One last straw in the wind: Two weeks ago, a survey of 381 retailers by the Bureau of Advertising of the American Newspaper Publishers Assn. turned up this statistic. This year, only 41% of the store executives predicted a gain for downtown stores during the coming Christmas season. A year ago, 75% foresaw a downtown gain.

• **Pulse-Taking**—**BUSINESS WEEK** recently went to some 20 cities to ask just what the shopping center has cost the central city store, and to find out what the downtowners were doing about the situation.

The answers varied all over the lot. Cities such as Omaha, Louisville, Jacksonville, Atlanta, have yet to feel the impact of any major shopping center. Los Angeles is one place that believes the steady losses to the centers over the past 10 years are at last leveling off. Often, merchants reported that it wasn't the suburban competition that was hurting so much as the general sluggishness of the consumer. Around San Francisco and New York, some of the shopping centers reportedly weren't too happy. In the Los Angeles area, there's a definite slowdown in the growth of new centers.

Most downtown stores claimed little more than, "We're about even with

last year"—and admitted that, with population growth, this meant a disappointing showing. A few said outright, "We have taken a lacing." But the dominant note was one of stoical optimism. The big city is far from dead. In most places, the shopping centers have brought not a decline in city sales but a snapping of the wings of expansion. This negative result is hard to measure. A Milwaukee expert, though, figured that since 1948 suburban competition has probably cost downtown Milwaukee 3% of the gain it might otherwise have expected.

I. Counterattacks

The big stores have several reasons for their tempered cheerfulness. They know by now what a new center or branch is likely to cost the mother store. They have a clearer idea of downtown's weaknesses and strengths—and can play their hands better. They know they have two roads open: (1) to get on the suburban bandwagon (only two major stores in Cleveland are still branchless, for example); and (2) to try to revitalize and improve downtown. More and more cities are aggressively taking route No. 2.

Short-term answers include the obvious: Detroit's "Downtown Days," with heavily promoted specials; big Christmas doings such as Pittsburgh's Lightup Night ceremony; more night shopping hours; "shoppers' specials" in bus rides, free parking—Milwaukee is even trying to get a free bus transfer to get people downtown.

• **Going All-Out**—Such activity, though, only scratches the surface. Furthermore, one retailer moans, "The extra promotions eat our profits." More merchants are beginning to think in more drastic terms: how to cope with the heavy traffic, what to do about dingy, outmoded buildings—problems that encompass a whole city economy.

Detroit downtown merchants are giving shopping center competitors "an eye for an eye and a tooth for a tooth." Their object: to pour on some urban gloss that will make their suburban offspring look like country cousins. Plans—still subject to further study and approval—envision closing off the central shopping district to city traffic, tricking up downtown with a mall, fancy lighting, piped-in music, splashing fountains.

One leader in this move is giant J. L. Hudson, which has also pioneered the shopping center development around Detroit. A year ago, Hudson's put a scale model of a central city mall on display. The late Mayor Albert E. Cobo endorsed the plan, but his death

Mission Accomplished...



SCENE: A smoke filled conference room, just after a momentous decision has been reached.

CAMERA: Close-up of facts and figures that govern the decision.**

ACTION: Another big name in American industry has just picked Georgia for their expansion program. After viewing the success stories of Eastman Kodak, Johns-Manville, Armstrong Cork, Rayonier, Manhattan Shirts (and hundreds of others) they proved that it's

Good Business to Produce in Georgia!

- ** • Abundant Water Power • Mild Climate
- Intelligent Man Power • Fair Tax Structure
- Adequate Transportation & Recreation Facilities

GEORGIA
Department of Commerce
Scott Candler, Secretary
100 State Capitol, Atlanta, Ga.

for Specific Facts and Figures Write:
Scott Candler, Sec'y., Dept. D-711
Georgia Department of Commerce
100 State Capitol, Atlanta, Georgia

Name _____

Address _____

City _____ State _____

last month temporarily halted its progress.

In the last three years, Detroit has added 2,400 parking spaces, is constructing 3,600 more. It proposes a \$4-million underground garage.

• **Bold Moves**—Atlanta is another city that is "thinking bold thoughts." Though no regional shopping centers are yet going, Atlanta faces the prospect of three big ones close by—they are now under construction. Atlanta's biggest stores—Rich's and Davison-Paxon (Macy-owned)—are in on the downtown plans.

This city's Metropolitan Planning Commission is talking of separate streets for public transit use. Within a year work will begin on two multi-million-dollar viaducts in the heart of town. In about three years, a downtown expressway connector is expected to reduce downtown traffic by a third. The privately owned Atlanta Transit System hopes to establish a "loop route" through the city's center and back to the shopping center areas.

Milwaukee, too, has big ideas. With two more large shopping centers scheduled to open next year, it has proposed a 14-block pedestrian mall for its main retail business street. The city has approved a \$20-million parking program, which hopes for an ultimate goal of 30,000 parking spaces.

• **East, West, and South**—Pittsburgh is by now a classic case of what downtown programs can accomplish (BW—Oct. 8 '55, p26). Its pride, the Golden Triangle, has at least helped keep downtown sales on an even keel. Rochester, N. Y., is another city that has worked up an extensive city renewal plan. Philadelphia plans a new Independence Mall, slum clearance.

San Francisco is on the prowl for parking spaces for the 74,000 cars that come into the city daily; last month its Parking Authority opened its first "park-ride plaza" providing fringe parking handy to freeway traffic. Jacksonville, Fla., has a \$70-million expressway on the boards. Chicago's State Street Council and Assn. of Commerce are getting 10 financial houses to lend up to \$100-million for more garages.

• **Stores' Face-Lifting**—Refurbishings and improvements are going on everywhere in individual stores. Boston's Jordan Marsh is about to open its third downtown unit; Filene's is leasing the defunct White's space (BW—Jun. 22 '57, p65) for toys and warehousing. Chicago's Loop spent about \$750-million on store improvements last year. Downtown Omaha's four major retailers have put some \$2.5-million into store remodeling since 1951.

A big Louisville retailer is adding 100,000 sq. ft. of space. A big Pittsburgh store completed a new \$14-million wing not long ago. In Detroit,



Here's Fine Line Etching ... 375 Times Enlarged!

This is what Taylor means by better printed circuits . . . the unretouched photograph above is an enlargement of the miniature etched test coil shown at right. Here is a dramatic illustration of exactly what Taylor means by saying rolled copper-clad laminates give you *better* printed circuits. Enlarged 375 times, this photograph shows how the .002" wide conductors are parallel and free of pits, pinholes and lead inclusions.

Here's proof of why you'll be satisfied with your printed circuits . . . if they're made with Taylor copper-clad laminates. You're assured of a uniform material, offering consistently satisfactory etching . . . better production rates.

For more detailed information on Taylor copper-clad laminates . . . for a discussion on how these laminates can help you produce *better* printed circuits . . . contact your nearest Taylor sales office.

TAYLOR
Laminated Plastics
Vulcanized Fibre

TAYLOR FIBRE CO., PLANTS IN NORRISTOWN, PA. AND LA VERNE, CALIFORNIA

INTEGRATED MANUFACTURER & FABRICATOR OF
Phenolic—Melamine—Silicone—Epoxy—Copper-Clad and
Combination Laminates • Vulcanized Fibre

FIRST AND LARGEST PRODUCER OF ROLLED COPPER-CLAD LAMINATES FOR BETTER PRINTED CIRCUITS

Why is this case carried the world over?



... it's because
SNAPAK, by Schell

combines distinctive appearance, expert craftsmanship and convenience, making it a favorite with discriminating men. Made of handsome top grain cowhide in a wide choice of colors. At all fine luggage and department stores.

Available with cover on one side, pockets on other—OR both sides with pockets.



Snapak by **SCHELL**
Leather Goods Co., Inc.

Cincinnati 25, Ohio

RECORDING "SECRETARY" WEIGHS ONLY 7½ LBS. **GELOSO!**

MINIATURE TAPE RECORDER

Take it with you, wherever you go! For your office, home, in your car, or in your travels. The Geloso! Hi-tone tape recorder, made in Italy, records and plays back music or voice with true fidelity.

SMALLEST (5½ x 5¾ x 9¾), LIGHTEST (7½ lbs.) and has everything. Excellent for meetings, conferences, dictation, training, etc. Complete with ultra-sensitive microphone, tape, take-up reel, and cordovan finish carrying case. \$179.95. At leading appliance, radio and department stores.

American Geloso Electronics, Inc.
312 Seventh Ave., New York 1, N. Y.
(Lackawanna 4-5936)



J. L. Hudson has just spent \$1-million to refurbish its moderate-priced ready-to-wear floor. Says general manager Joseph L. Hudson, Jr., "This is only the beginning. From now on we are going to concentrate on downtown."

• **Minuses and Pluses**—Downtowners recognize that the branch and the shopping center are things they will have to live with. One big chain store figures a new branch costs an old one nearby 40% of its business when the new one first opens up. Eventually, some merchants say, the downtown store catches up—some say in a matter of weeks, others in a matter of years. And, as long as the population in the suburbs keeps growing, many feel the branches sooner or later bring the store plus business.

The central city retailer feels the downtown store has certain basic advantages: A vast selection of stock, which few branches are able to cope with; services that smaller stores can't afford; credit. As never before, merchants are scouring the bushes for fresh, new merchandise. "We must ask, 'What does my downtown store carry that a customer will come 50 miles for?'" said NRDGA's J. Gordon Dakins, in a speech to San Diego retailers.

II. Main Street

There are few statistics to prove it, but big-city retailers feel strongly that the shopping centers have hit the neighborhood center and suburban downtown far harder than they have hit most city retail districts. Here and there they report a suburb that is fighting a grim battle.

Thus, Quincy, not far from Boston, is converting chunks of downtown to parking lots. Evanston, a Chicago suburb, is adding parking space, dressing up with new lights, redecorating. Royal Oak, near Detroit, has a mall plan of its own well on the way to approval.

The smaller retailing centers have several strikes against them. The neighborhood center often got started as the population spread from the big city, but now is stuck in an area midway between the newer, remoter suburbs and downtown. Its best market is pushing further from the central city.

Further, as Hofstra College pointed out in a study on retailing activity in Long Island towns, it is difficult to get unified action among a multiplicity of small merchants. Yet the same downtown problems face the small community: traffic congestion, lack of parking space. The big selling point of such retail centers is convenience—but growth is strangling the convenience out of the picture.

A lot has been written about the future of the city—about the two-way

split into a low-end and high-end market, with the vast middle-income group squeezed out. Some merchants talk of a back-to-the-city movement, especially among the higher-income groups. But, likely as this seems, there is little to document it at present.

III. What Next?

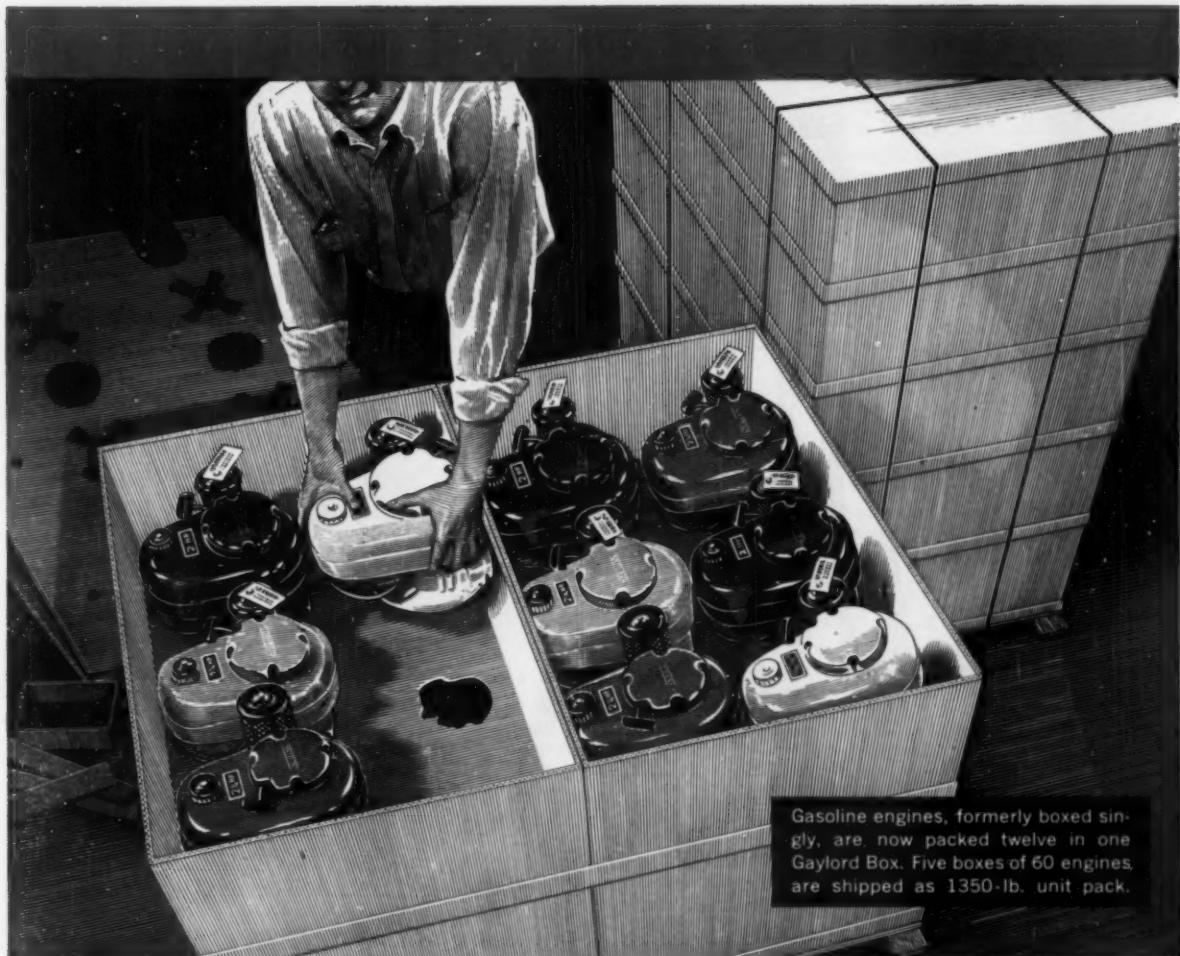
Nevertheless, especially in the larger cities, there are signs that the split is occurring, and will intensify in the future. Surveys seem to establish that the best downtown shopper is the better-heeled, older woman. She can afford the high price of all-day parking, can take in a lunch, make a day of it. At the same time, the lower-income groups (the Puerto Rican immigration to New York is a case in point), those who can't afford the suburbs, are building up downtown's bargain-basement market. This development, thinks one observer, causes a sort of schizophrenia in the downtown retailer.

This trend shows up especially in such giants as New York and Chicago—and forecasts for New York indicate no end to the trend. Retailing already accounts for a smaller proportion of New York's total central city business, and prognostications for New York County show a continued decline in both population and retail activity. In the last year or so, the great bulk of the city's new housing has aimed at the upper-income groups; most of the rest has sought to help the low end of the market. City planners are keenly aware that the middle-income resident is the forgotten man.

But downtown New York has its own pluses. The vast new office buildings at least bring a huge market to town every day—at all income levels. And the prestige market is either still in the city or has the means to get there.

• **Nothing Drastic**—It would be rash to count on a slowdown in the growth of shopping centers, thinks Perry Meyers, retail consultant. "As long as new houses spring up at anywhere near the rate of 1-million a year, the centers are going to follow," he says. Neither does he look for any drastic changes in downtown: a slower growth, a shifting of merchandise lines to cope with the market's split personality, a decentralization of retailing in such lines as furniture, appliances—which take a lot of space, hence call for high rent—and more emphasis on low-cost selling, such as the discount house offers.

Just plain size and congestion intensify the large city's problem, make drastic renewal difficult. "Eventually," says Meyers, "six architects will come along with a plan to convert Fifth Avenue into a mall. But then they'll look at the cost figures—and nothing will happen." **END**



BOLD NEW PACKAGING IDEAS CUT COSTS



Smashing through tradition can open up new profit areas for you. The benefits can be less weight, simplified packing, stacking, shipping, warehousing. They all add up to lower costs, better profits.

Get the fresh Gaylord slant on your packaging now, whether your answer should be unit packs—or something entirely new. Call your nearby Gaylord packaging engineer.

CORRUGATED AND SOLID FIBRE BOXES • FOLDING CARTONS • KRAFT PAPER AND SPECIALTIES • KRAFT BAGS AND SACKS

GAYLORD CONTAINER CORPORATION • ST. LOUIS

DIVISION OF CROWN ZELLERBACH CORPORATION



WHO SAID DIRT CHEAP?



"According to tests developed at the National Bureau of Standards, electronic air cleaners remove at least 90% of all the dirt particles causing the greatest staining, while ordinary mechanical filters remove only about 10%."

The money you spend on these proves otherwise

It's hard to realize the air about us is so full of dirt. Your walls, windows, furniture and other interior fixtures prove the air is full of dirt—expensive dirt. Your profits prove it, too.

But why tolerate high cleaning and redecorating costs now that the Honeywell Electronic Air Cleaner is available?

This scientific device can trap the microscopic particles that cause the damage—before it occurs. This advanced type filter is actually 9 times more effective than ordinary mechanical air filters in removing the major cause of all soiling.

The Honeywell Air Cleaner can actually remove particles less than 1/25,000 of an inch in size! Tobacco smoke, oil smoke,

fumes, and practically all of the fly ash disappear from the air. These are the oily, filmy kinds of dirt—the really *dirty* dirt—not just dust. Electronic cleaning is the only practical method of removing it. Cleaning, painting and general maintenance costs drop accordingly.

Bacteria are eliminated from the atmosphere, too—so respiratory ills and accompanying absenteeism are reduced as well.

Why not keep your interiors more attractive and save money while doing it? See your Honeywell office, architect or engineer about a Honeywell Electronic Air Cleaner. Address inquiries to Minneapolis-Honeywell, Dept. BW-11-266, Minneapolis 8, Minnesota.

Honeywell



First in Controls

In Marketing

Baltimore's Ad Tax Faces Court Test Despite Last-Minute Cut in Levy

A court test is practically certain for two Baltimore ordinances levying taxes on advertising in the city. Following the city council's vote of approval last week, Mayor Thomas D'Alesandro signed two measures that place a 4% tax on advertising expenditures and a 2% tax on media income from advertising sales in the city.

William F. Schmick, Sr., president of A. S. Abell Co., which publishes Baltimore's Sun papers, assailed the new taxes as "discriminatory." His company will test the ordinances in the courts, Schmick said.

Originally the city planned to tax advertising expenditures at a 7.5% rate (BW—Nov. 16 '57, p125). But after a public hearing last week at which advertisers in the city lined up against the proposals, the mayor announced the reduced rate.

RCA Victor Launches Record Club To Help Pep Up Classical Sales

A new record club, the RCA Victor Society of Great Music, will get off the ground early next year. The Book-of-the-Month Club (already operating a Music-Appreciation Records Club and a Metropolitan Opera club) will distribute the Victor recordings.

Victor is mum on details so far—except that its dealers will sign up members, collect their profit as in ordinary sales. One source estimates that classical records have slipped as a percent of total record sales; the new club should give classics a shot in the arm.

Book-of-the-Month explains that Music-Appreciation Records will use the new Victor Red Seal club recordings as a basis for its own selections.

The close-mouthed record industry isn't telling how much of the business the various clubs account for. Columbia Records reports only that it is "very happy" with the growth of its own club. One trade source estimates Columbia club membership at between 300,000 and 500,000.

Roadside Merchants Defy New Law, Stay Open on Sunday as Usual

The fight over Sunday roadside selling got hotter last Sunday as some 60 merchants in Paramus, N. J., stayed open, defying a town ordinance banning selling on Sunday. Routes 4 and 17 in Paramus are lined with discount stores, big and little, which do a thriving business in the growing Sunday roadside selling market (BW—Jun. 8 '57, p62).

Paramus' citizens voted in the blue law in the recent election. Their alternative: to exempt certain types of stores from the ban.

Sunday selling has aroused strong opposition from local groups. Paramus is also the site of two large new shopping centers within a stone's throw of each other: Garden State Plaza (dominated by Bamberger), and Bergen Mall (dominated by Stern's). The large department store branches traditionally close on Sunday.

The roadside merchants, banded together as the Suburban Merchants Assn. of New Jersey, say they intend to test the ordinance, right up to the Supreme Court if necessary. This week three of the largest discounters, Masters, Great Eastern Mills, and Ramsey's Discount Department Store, were scheduled to ask for an injunction pending a court test. The outcome could have implications for Sunday sellers elsewhere.

Earlier this year, a bill in the state legislature that would have outlawed Sunday selling statewide died in committee.

• • •

Too Much Selling Space Suggested As What Ails Retailing Today

Retailers, plagued with questions of downtown vs. suburban competition (page 71), had another challenge thrown their way this week. Victor Lebow, marketing consultant, posed to the Babson Institute of Business Administration the question whether too much selling space may not be the crucial problem today. It is not that there are more stores. But the push to bigger ones adds up to too much selling capacity, and the efficiency of the big store makes it tougher for the little one.

Lebow illustrated the strains and stresses of retailing with these figures: In the 1949-52 period, he said, it took a turnover of 25 stores to net one new retailer (in other words, 25 operations were born, died, or changed hands). In the 1953-56 period, it took a turnover of 50 stores to produce a single net additional retailer. So, a retailer today can expect a shorter life span.

There's no question but that there is still a big, unsatisfied market for goods, but, Lebow points out, much of it lies at the low end of the income scale. There are two obvious attacks on this group: through lower prices, or through credit.

But the rising costs of distribution make low prices a tough thing to achieve, except in terms of large-volume operations. Similarly, the small store finds the cost of extending credit increasingly hard to bear. Furthermore, the consumer, bent on one-stop shopping, likes the big store, with everything at hand.

For the manufacturer, a threat to the small store is not a light matter. It's not just that the small shop helps distribute the goods. It is the large retailer that has the wherewithal to push his own label. The trend to bigness has already shown signs of boosting the private or merchant brand (BW—Feb. 23 '57, p57). As the supermarkets and others find their answer increasingly in mammoth selling floors, the maker of national brands may discover that his most loyal customer has been squeezed out into the cold.



The MIDLAND STEEL PRODUCTS COMPANY *Chooses Outstate Michigan*



For 34 years The Midland Steel Products Company, with plants in Cleveland and Detroit, has been a leader in the production of chassis frames, brakes and other automobile parts.

As the location of its new power brake plant, Midland Products chose Owosso, in Outstate Michigan.

Owosso is a modern city (population 18,000) about 25 miles west of Flint. Busy, yet quiet and pleasant, it is good for industry, good for living, and a good place to raise a family.

Outstate Michigan has scores of communities well suited to profitable production. They range in size from a few hundred people to 200,000. Their thriving industries have helped Michigan attain its high rank among industrial states.

Outstate Michigan has what industry needs—skilled manpower, plentiful materials, central location, good transportation, outstanding recreation, and the greatest fresh water supply in the world.

Our Industrial Development Department will help you find the right location for your new plant.

CONSUMERS POWER COMPANY

An Electric and Natural Gas Utility Company Serving More Than 3,700,000 Michigan People

GENERAL OFFICES...JACKSON, MICHIGAN

DIVISION OFFICES...Alma • Battle Creek • Bay City • Flint • Grand Rapids • Jackson • Kalamazoo
Lansing • Muskegon • Pontiac • Saginaw • Traverse City

Rocks and Reefs of SEC Rules

● When new securities are to be issued, companies and financial people must walk a tightrope to avoid conflict with SEC rules on sales procedure.

● SEC is worried about an increase in violations, and its new rulebook reinterprets the code of conduct.

● Violation, innocent or not, can be costly in terms of delay enforced by SEC.

Whenever a new public offering of stocks or corporate bonds is heading for the market—and more such offerings are coming out these days—everyone connected with the issue walks softly, for the Securities & Exchange Commission carries a big stick.

SEC is responsible for seeing that investors get full and accurate information about all corporate securities that are publicly offered. And it takes only a small misstep for a corporation, an underwriter, or a dealer to clash with SEC's idea of what constitutes an unlawful sales effort.

Edward N. Gadsby, the new chairman of SEC, addressed the New York Society of Security Analysts the other day, discussing the general problem of policing the nation's security markets. His prime concern, he said, is the growing number of violations—many of them inadvertent—of the rules about beating the drum for a new securities issue.

• **Heating Up**—The question is warming up for three main reasons:

• The flood of new issues now and in the near future (BW—Aug. 31 '57, p47), increasing the likelihood of inadvertent violations.

• The difficulties of selling new securities in today's market, leading companies to step up sales efforts into the borderline of impropriety.

• The public relations consciousness of company management lately, the new awareness that the public can be persuaded to buy your securities as well as your products.

It's hard for many public relations men to realize that what is admirable in normal times may be strictly against SEC rules when a new stock or bond issue is on the horizon. At those times, a company is naturally anxious to put its best foot forward, but it must be especially careful not to put it as far forward as its mouth.

• **Matter of Opinion**—Even knowing SEC policy and trying to be discreet, a company can make a mistake. And

that is happening more frequently.

SEC must continually clarify and interpret its rules because they are so numerous and complex. Corporation lawyers complain privately that SEC's powers are so broad that its interpretation in any new set of circumstances is unpredictable. Indeed, Gadsby told the New York analysts that SEC must consider each case individually, implying that its staff has wide latitude for judgment.

Many company officials chafe at SEC's restraints, yet dare not say anything for quotation. "The SEC boys have a lot of leeway in interpreting the rules," says the treasurer of a big public utility, "and they can make life miserable for us if we get them mad."

I. Spelling It Out

To combat the rise in violations of the registration and prospectus requirements, SEC is issuing a booklet explaining the rules in detail. Some forms of publicity about a company prior to a public offering, "though not couched in terms of an express offer," says SEC, may violate the rule that no sales campaign for an issue can begin before the effective date of registration.

These publicity efforts, says SEC in starchy language, "may in fact contribute to conditioning the public mind or arousing public interest in the issuer or in the securities of an issuer in a manner which raises a serious question whether the publicity is not in fact part of the selling effort."

• **Required Steps**—When a security issue is to be cleared with SEC, it must go through prescribed routine:

• A registration statement must be filed in triplicate with SEC, containing every fact that bears on the company's capital structure and operations. It may run 50 pages or more.

• If SEC approves the issue, it sets an effective date when sale can begin. Until 1940, this waiting or "cooling" period had to be at least 20

days; in that year, an amendment permitted SEC to accelerate the date.

• During the waiting period, the registration statement is open to public inspection, and it serves as basis for the prospectus, which can be distributed to potential investors on and after the effective date. Until the effective date, underwriters and dealers can hand out only the lengthy registration statement or a summary known as a "red herring prospectus" because of a red-ink statement on each page that the booklet is intended only to inform, not to offer for sale.

• After the effective date, SEC also allows an abridged form of the general prospectus to be distributed. Either form of the prospectus must be used as the basic selling circular for 40 days after the effective date of registration or after the actual public offering, whichever comes later. No advertising or publicity is permitted except in conjunction with the prospectus.

• **Price of Effort**—Whenever SEC feels that the rules have been violated, it has a choice of punitive actions. If the breach seems to have been unintentional, it may merely refuse to speed up the waiting period, or it may insist that all who have been exposed to the offending publicity be supplied with the regular prospectus.

In more blameworthy cases, SEC can go to court for an injunction against further distribution of the offending advertisement or publicity. If it has evidence of fraud or criminal misrepresentation, SEC can, of course, seek an indictment.

If one of the offenders is a broker-dealer, SEC can revoke the firm's registration or suspend it from the National Assn. of Securities Dealers—either way effectively putting it out of business.

II. Talking Too Much

Major cases of fraud are rare. What disturbs SEC principally is the number of borderline cases, where companies or underwriters in their zeal to sell an issue in today's competitive money market make the mistake of talking too much, too soon.

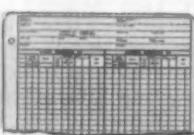
This kind of violation can be inadvertent, almost beyond a company's control—which is why most companies lean over backward to be closemouthed at critical times. "When we're about to go into registration," a company treasurer says, "I won't even talk to an analyst."

• **Unwelcome Publicity**—A big Eastern industrial corporation filed for regis-

STOP "4 o'clock vision"



with **EYE-EASE**



EASE[®]

No Glare, No Strain — Record Keeping

FORMS

ON HAMMERMILL PAPER

Made only by National Blank Book Company

HOLYOKE, MASSACHUSETTS

MAKERS OF LOOSELEAF, ROUND BOOKS AND VISIBLE RECORDS FOR 113 YEARS.
AVAILABLE AT OVER 4000 NATIONAL BLANK BOOK DEALERS.



tion of a new issue of common stock. Between filing and the effective date, a major national magazine came out with a story about the company. It had been in preparation for more than nine months. The magazine didn't know that a new securities issue was being registered so close to publication date; the company was appalled at the coincidence but could do nothing about it. SEC delayed the effective date.

A public utility accidentally violated the rules when a financial reporter happened to attend a "due diligence" meeting (when the underwriting syndicate and dealers analyze an upcoming issue) and printed an earnings estimate that had been made at the meeting. SEC threatened to hold up the effective date unless the utility could persuade the publication to print a statement immediately that the figures were merely an estimate. The publication ran such a statement, and SEC allowed the issue to go off on schedule.

- **In Print, It's Bad**—Actually, no law says you can't talk about a new issue and its prospects. The trouble comes when such talk gets in print.

A company president, for example, made a routine speech to a group of security analysts in which he discussed expansion plans, current and future sales and earnings. He also mentioned that the company was about to register a new securities issue. Copies of his speech were handed to 4,000 analysts. SEC ruled that this was a violation. It refused to accelerate the effective date, and it insisted that a copy of the full prospectus be sent to each of the 4,000 analysts.

A public relations director was harried by his company's legal department when he had to rewrite a press release to eliminate a series of figures showing a long upward trend in earnings. The company was issuing new stock, and lawyers felt the figures might look to SEC like a sales pitch.

Even investment bankers make mistakes. A firm that was part of an underwriting syndicate bidding for a new issue found itself suddenly out in the cold. Registration of the issue had become effective for receiving competitive bids. Before the bids were opened, the firm published a brochure extolling the issuing company and predicting a rise in its stocks.

SEC ruled that this publication violated the securities law. The syndicate to which this investment banking firm belonged won in the bidding, but the firm was excluded from participation either as an underwriter or as a member of the selling group.

It's hard to draw a line between legitimate publicity and a sales campaign, but Chmn. Gadsby of SEC says "the burden is on the issuer to draw this line." **END**



STEAM SUPPLY BY B&W

Steam Controls Vat Temperature in Shulton Processing Operation

Cuts Costs on Wide Load Swings for Shulton

"Package" Boiler Solves Multiple Demand for Heat, Hot Water, and Processing

Shulton, Inc., makes the well-known Old Spice toiletry line. They also make their own dies, boxes, packages and plastic closures. Steam plays a multiple role in processing. And their big, new Clifton, New Jersey, plant requires a high volume of hot water and heat. A dependable, efficient, low cost steam supply thus is a basic need. It was filled by a B&W Boiler. Virtually on the line upon arrival at the plant, this boiler took wide load swings in stride, saving extra money for Shulton.

No Matter How you use steam — for processing or only for heating; no matter how large or small your demand is, it will pay to look at your steam costs, just as Shulton did before installing their B&W unit. You'll be surprised how much money you're burning. And

that's the money that really matters — not the initial cost of the boiler.

Most Boilers consume their initial cost in fuel every year. During the normal life expectancy of many boilers, the fuel bill can amount to several million dollars. Unless it is well-engineered, well-serviced, and well-maintained, the efficiency of a boiler can drop off 2 or 3 per cent or even more. This amounts to a substantial amount of money.

You Save on your steam supply with a B&W Boiler. That's why it pays to buy the best for your steam operations — B&W's top level engineering, long range sustained economy, and best performance. A national network of plants and engineers, supported by nearly a century of steam generating

experience, is at your service. Talk over your steam needs with B&W.

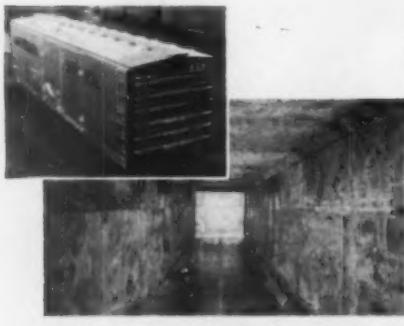
The Most Definitive work on the subject, "Steam, Its Generation and Use," covers all of the applications of steam to industry. It was written by the same B&W engineers who can bring you long range sustained economy for your steam operations. We will be glad to tell you how you may obtain a copy for yourself or your engineers. Just drop us a note on your company letter-head. The Babcock & Wilcox Company, Boiler Division, Dept. BW-11A, 161 E. 42nd St., New York 17, N. Y.

G-826-1B



OLIN MATHIESON'S SWITCH TO RUBATEX GAVE THEM \$50 SAVINGS PER DAY

"Our old dry ice rail cars, insulated with other low temperature insulations lost as much as 2% of net load per day. New cars insulated with Rubatex have an established daily loss of under 1/2 of 1%—a saving of salable dry ice at destination for every day under load of \$50 compared with former insulation. This lower evaporation loss has been maintained because of the greatly decreased water pick-up of the Rubatex as insulation."



Modern LRC type car, considered the largest and most efficient in the industry. Built by Fruit Growers Express Company to the design and under supervision of Olin Mathieson. Cars are metal lined, welded, backed up with T&G wood. Rubatex floor thicknesses are 10"; side wall 14"; roof 8"; car ends 12".



Basically same car design, with modifications required by weight restrictions, is used in Olin Mathieson's dry ice delivery trucks and trailers. Using "floating floor" minimizes heat entry to what is considered to be lowest possible.



D. F. McCauley, Sales Engineer
Olin Mathieson Chemical Corporation
Baltimore, Maryland

Rubatex Insulation Hardboard has met the exacting requirements of Olin Mathieson's low temperature insulation specifications for ten years. Rubatex is completely self-supporting with an average load-bearing compressive strength of 60 lbs. per square inch yet is surprisingly light in weight—only 4.5 lbs. per cubic foot. In addition, Rubatex has the lowest heat conductivity of any known structural material, K-factor 0.21, and its closed cellular structure cannot absorb moisture even at cut edges.

Whether you design or specify insulation for rail, truck, or trailer equipment—check the cost saving advantages of Rubatex in the over-all construction of the job.



RUBATEX
INSULATION HARDBOARD

RUBATEX DIVISION, Dept. B-9
GREAT AMERICAN INDUSTRIES, INC.

Bedford, Virginia



For full details and sample of Rubatex Insulation Hardboard—print your name in space below, attach to your company letterhead and mail to us.

Name _____

Send for
Free Sample
and
full details

Wall St. Talks . . .

. . . about selectivity in the market drop . . . investment trusts . . . B&O's stock's second tumble.

The drop in stock prices has been as selective as the rise that preceded it. Streeters point out the group variations inside the 21% drop of Standard & Poor's industrial index from its 1957 high: the aluminum, lead and zinc, and machine tool groups are down 40%-45%; integrated oils, crude oil, copper, heating and plumbing, construction machinery, materials handling equipment, and airlines are off 32% to 37%, but electric power and drug shares are off only 10% and food chains, cigarettes, packaged foods, biscuit baking, and dairy products are down a mere 2% to 4%.

Investment trust gleanings: Market prices are "certainly within 10% of a realistic near-term valuation of stock values based on economic facts," says Thomas J. Herbert, vice-president of the open-end Fundamental Investors, Inc. Delaware Fund, Inc., is still "fully committed," says Pres. D. Moreau Barringer, but has been edging away from "some of our more cyclical commitments" toward stable consumer goods issues.

Previous sharp price drops don't always mean that a stock has amply discounted all possible coming bad news. Thus Baltimore & Ohio common closed last week at \$33.87, a fat 42% below its high for the year. But on Monday, when B&O directors announced that the quarterly dividend in 1958 would be cut to 25¢ a share, from 50¢, the stock took a 20% dive, down to \$27.25—off 54% from the 1957 peak.

Streeters are warning against those earlier bullish estimates for 1957. The latest downward revision: Clark Equipment Co. now says its 1957 sales will be \$145-million, compared with \$145.4-million last year, with a net of \$8-million compared with \$9.4-million. In July, Clark predicted sales would be \$155-million, earnings \$9-million.

The cut in the discount rate won't have too much effect on the market, Streeters opine. Most think, as one says, that the near-term price trend "will be mainly governed by tax selling and industrial factors such as carloading reports, coming earnings statements, metal prices, new auto sales, and the like."

**Depend on this
Good Name...**

CLEVITE

For many years the products of CLEVITE companies have occupied positions of highest reputation. Behind them is a *good name* in which to place your confidence.

Time was when the manufacturer of an article had to produce all his own parts. Today he can turn to specialized industry for the components he needs. Thus the finest essence of skill and craftsmanship is possible in each piece and part, and no longer is the finished product dependent on a Jack-of-all-trades.

The *principle* is simple—but the *idea* is great. A greatness without which

modern industry's multitude of specialized requirements could not be satisfied.

At Clevite an aggressive management is putting many principles to work—not alone to meet the mass needs of today—but the even greater challenges of the future.

Out of these fundamentals has grown an organization whose research facilities and technical ability positions it to serve broad fields in American industry, backed by the authority of long experience and superior product reputation ... CLEVITE Corporation, 17000 St. Clair Ave., Cleveland 10, Ohio.

CLEVITE
CORPORATION

PRECISION COMPONENTS FOR INDUSTRY, SCIENCE AND DEFENSE

DIVISIONS OF CLEVITE CORPORATION

CLEVELAND GRAPHITE BRONZE
Cleveland, Ohio

CLEVITE HARRIS PRODUCTS, INC.
Cleveland, Ohio

CLEVITE LIMITED
St. Thomas, Ontario, Canada

BRUSH INSTRUMENTS
Cleveland, Ohio

CLEVITE ELECTRONIC COMPONENTS
Cleveland, Ohio

CLEVITE ORDNANCE
Cleveland, Ohio

CLEVITE TRANSISTOR PRODUCTS
Waltham, Mass.

INTERMETALL, G.m.b.H.
Dusseldorf, Germany

CLEVITE RESEARCH CENTER
Cleveland, Ohio





**MARKED IMPROVEMENTS IN
IDENTIFICATION
AND DECORATION**

A voice from the shelf... that says "Here's the paint... drug... oil... you're looking for..." would certainly help both buyer and seller. Attractively lithographed cans do "talk" this way, but one trouble has been high production runs of lithographed cans vs. the short run needs of variables such as color names, batch numbers and date codes. Markem suggested imprinting the variables on partially lithographed cans, as they are needed, and built the 70AF machine to do the job. Today a fair number are in use, imprinting little 1/32 to full gallon sizes, areas to 2" x 6", at rates up to 1500 an hour (an even faster rotary machine is underway). Beats torn, smudged or missing paper labels all hollow.



"Elephant trunk" marker... is not the usual way Markem describes its machines, but for the 89A, the nickname has stuck. This is a typical Markem

"Special Products" development, for marking tradename and size on tubular rubber insulation. The inelegant nickname originated because the material is a six foot length of gray tube 1 1/4" to 5" in diameter. It is fed into the machine, passes under the printing head and ejected by a lower drive roll. Adjustments for different diameters are easily made, and other useful features include mobility brackets.

for use in different locations, variable speed motor, excellent imprint quality with Markem's jasmine yellow marking compound. The people who worked out this "Special" perhaps can help you, if you have a yet-unanswered problem in identification/decoration marking.

"Do-it yourself"... is often prompted by economy reasons. In marking products, however, the manufacturer who "does it himself" not only saves money, but also gets what he wants when he wants it. Here's what we mean: a company making plastic cases for eyeglass lens cleaner had the product name and directions imprinted on the containers by a job printer. The method was neither convenient or economical. The local Markem man presented a case for the 20A machine, and it gave a good account of itself in an 80-prints-per-minute run. Having another satisfied customer makes us happy, and he's tickled with the quality, convenience, and prospect of the 20A paying for itself in six months.



Is there a shape, surface or size giving you trouble in efficient marking? Try the Markem Method—a source of better marking for 46 years. Write Markem Machine Co., Keene 33, N.H.

MARKE

Churches Go to Bond Market

Their expansion—schools and hospitals as well as houses of worship—calls for borrowings, usually by 15-year serial bond issues. There's a specialized business in such bonds.

Church treasurers and the money market are getting better acquainted with each other these days, as the churches, too, feel the need for capital spending. Suburban growth has obliged many churches to rebuild; church-affiliated schools are feeling the same pressure on classroom space as the public schools; the number of aged, too, is increasing, and many churches have homes for the elderly and the chronically ill. Some churches maintain hospitals, which are also growing.

Financing of these building operations is often done through bond issues. These bonds are sold chiefly to insurance companies, banks, pension funds, and other institutional investors, and occasionally to individual investors, who are usually in the middle income brackets.

• **Special Breed**—The bonds themselves are a special breed—taxable like corporate bonds but maturing serially like municipal bonds—and most of them are handled by a very special breed of investment banker.

These specialists aren't centered in the canyons of Wall Street but rather in the central plains, in cities like Chicago, Milwaukee, St. Louis, Denver.

With only \$300-million to \$400-million in these issues outstanding, religious bonds are a tiny business compared with corporate bonds, which have \$100-billion outstanding, or municipals, which have \$47-billion outstanding. But there's enough business to keep four investment bankers in this field full-time, another 10 or so underwriting these issues in addition to their other businesses, and 40 or 50 more irregularly active in bringing out new issues—"about once every 10 years or so," says one underwriter.

B. C. Ziegler & Co., in West Bend, Wis., about 30 mi. west of Milwaukee, expects its underwritings to reach \$33-million this year. That's about 65% more than last year and about four times that of its nearest competitor, Keenan & Clarey, Inc., of Minneapolis. Ziegler handles financing for all denominations; Keenan & Clarey deals only in Roman Catholic bond issues, as do McMahon, Hoban of Chicago and Coughlin & Co. of Denver, the other full-time underwriters of church bonds.

Dempsey-Tegler of St. Louis, a member of the New York Stock Exchange dealing mostly in stocks, underwrites bonds for all denominations. The only

nationwide brokerage house in this business is Bache & Co. of New York, whose Milwaukee office underwrites Catholic issues.

• **Active Borrowers**—Activity is in the Midwest and West chiefly because expansion seems greatest there. Eastern religious institutions have had relatively less need for construction. In the case of the Catholic Church, there's another reason, too, as Pres. John M. Clarey of Keenan & Clarey explains:

"In the East, the diocesan corporation holds title to all the parish property, and financing is done in the name of the diocese. In our area, each parish is a separate corporation. Thus, we have a number of relatively small corporations, each seeking its own financing."

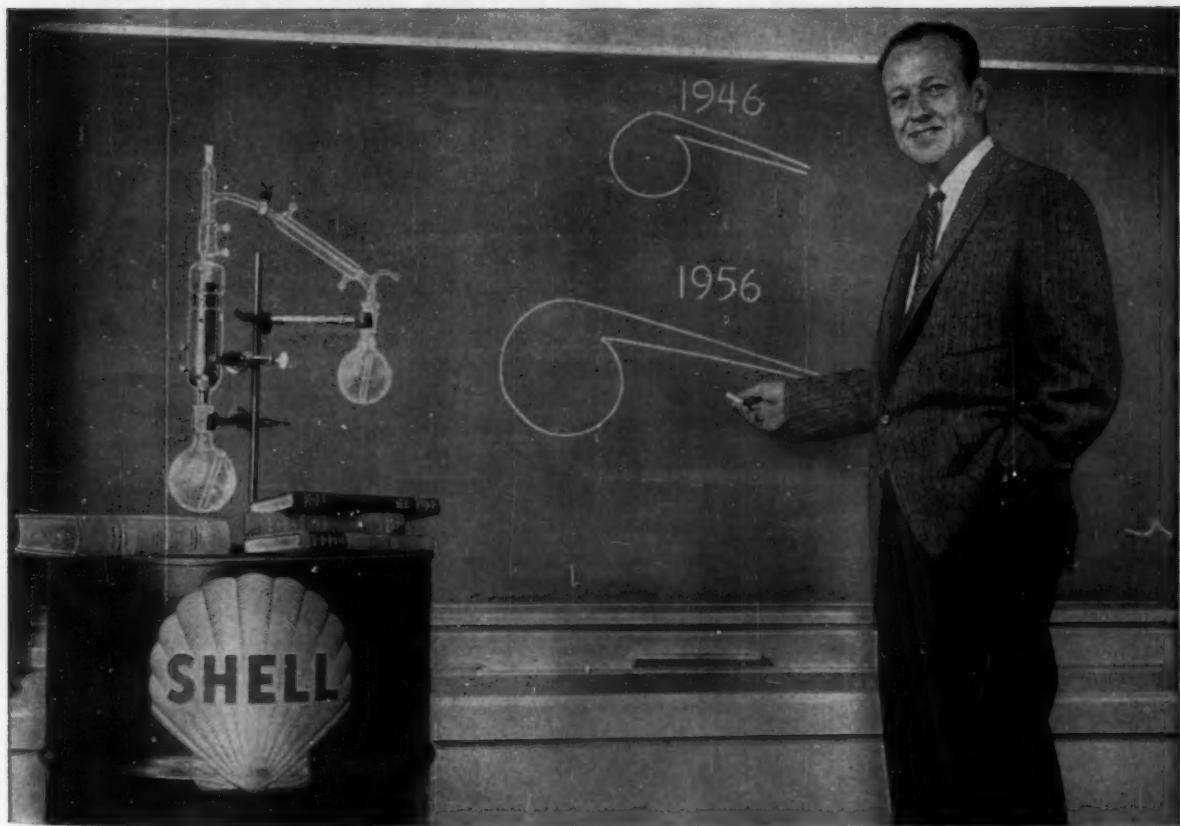
Catholic Church issues, including an extensive parochial school system, outnumber those of Protestant and Jewish faiths. However, the Lutherans also operate many parochial schools in the Midwest, and they probably rank second. In contrast, an issue for an Episcopal church is very rare.

• **Happy Investors**—Religious bonds find a ready market among the fairly few investors who know about them. They offer high yields, about 4% higher than comparable high-grade corporate bonds, and they show a good safety record, despite some defaults during the Depression.

Borrowing costs for churches have risen, though, along with the rest of the bond market. Last month, for example, a \$160,000 15-year serial issue to finance expansion of Sunday School facilities for Calvary Baptist Church of Muskegon, Mich., carried interest coupons of 5%, 5 1/4%, and 5 1/2% for short, intermediate, and long maturities respectively. Two years ago, this typical issue could have been sold with coupons from about 3% to 3 1/4%.

There are at the moment and were, even before the drop in rediscountrates to 3%, signs of ease in the money market. Thus this week's \$3-million issue for a Catholic Sisters hospital and nursing school in Wichita was scheduled to be offered on a 4 1/4% to 5 1/4% yield basis. If it finds buyer acceptance, it may set a precedent for better prices in the church bond field.

• **One Rating System**—The larger issues receive ratings from Fitch Investors Service, and these ratings are important, since they qualify the bonds for investment by national banks. Fitch grades



*J. R. Morrison, Manager of Laboratories, Shell Development Company
Emeryville Research Center, Emeryville, California*

Shell Development Company knows

INDUSTRIES "GROW PLACES" IN MOA

(Metropolitan Oakland Area)

It's only natural that top physicists, chemists, mathematicians and engineers prefer to live and work where cultural contacts and academic resources are generously available, with great universities "just around the corner."

"When Shell Development Company first thought about establishing a research center," Mr. Morrison reports, "the main considerations were to find a central location with ready access to many of Shell's marketing and manufacturing centers, an area near outstanding universities, an attractive cultural and community atmosphere for our scientists, and a suitable civic climate for our business of petroleum and petrochemical research and development. Our main research center, located in MOA, has had a history of continued growth and expansion in the nearly thirty years we have been here. In the past ten years alone we have doubled our laboratory space and working areas, and our scientific staff has increased by over a third."

Where fine schools and colleges, mild-all-year weather, community life of any choice and superior recreational facilities combine to provide living to their liking, there's bound to be an adequate force of upper echelon scientists and highly skilled men and women, as well as competent labor.

Whatever your manpower needs for your particular branch plant requirements, you'll find an abundance of capable workers in MOA (all of Alameda County), living almost at the center of a 4-million population with a \$7½ billion annual buying income.

WRITE FOR FREE FACTFILE

You'll receive complete, factual Data Sheets on labor supply, climate, markets, living conditions, distribution and transportation facilities, and a plant location map of 200 nationally known firms, all "growing places" in the West's most central location to a market of 24 million Westerners. Your inquiry will be held in strict confidence.

On the Mainland Side of San Francisco Bay

Metropolitan
Oakland
Area

ALAMEDA
ALBANY
BERKELEY
EMERYVILLE
FREMONT
HAYWARD
LIVERMORE
NEWARK
OAKLAND
PIEDMONT
PLEASANTON
SAN LEANDRO
RURAL ALAMEDA COUNTY



CALIFORNIA

Suite 204 - 1320 Webster Street, Oakland 12, California

LIGHTNING



TOCCO* High-Frequency Induction Heating Harnesses High Temperatures for Industry

Whether your products involve heat treating, brazing, annealing or heating for forging of ferrous or non-ferrous metals, TOCCO can do the job in seconds, with automatic accuracy—every part the same—ten or ten million.

Our application engineers, with many years of induction heating know-how, are glad to discuss how TOCCO can help you speed production, improve products and *lower unit costs*, at no obligation, of course.

Write for free booklet—
"Typical Results of TOCCO Induction Heating"

THE OHIO CRANKSHAFT COMPANY

3800 Harvard Avenue • Cleveland 5, Ohio

World's Leading Manufacturer of Induction Heating Equipment

*Trade-Mark Registered

Hardening
Brazing
Annealing
Soldering
Forging
Melting
Welding



... insurance companies compete with bond underwriters by making direct loans to churches . . ."

STORY starts on p. 84

practically all of them as "AA" or "A," its second and third highest ratings.

The other services do not rate church issues: Standard & Poor's doesn't rate issues less than \$3-million, which excludes most church bonds, and Moody's classifies church borrowings in the "real estate" category of issues, which it doesn't rate.

• **Maturity Terms**—Most religious bonds are 15-year serial issues, with a concentration of another five-years' worth of maturities in the final year. Thus, investors have a choice of bonds that mature anywhere from one to 15 years hence, unlike corporate bonds, which mature all at once.

Because the income is taxable, investors in top income brackets still prefer municipals, which are tax-exempt, over either religious or corporate bonds. For the middle-income investor who cares less about tax exemption, church bonds fill a special niche. "Except for rail equipment trust certificates," says Pres. Delbert B. Kenny of B. C. Ziegler & Co., "we have a monopoly on the taxable serial-bond field."

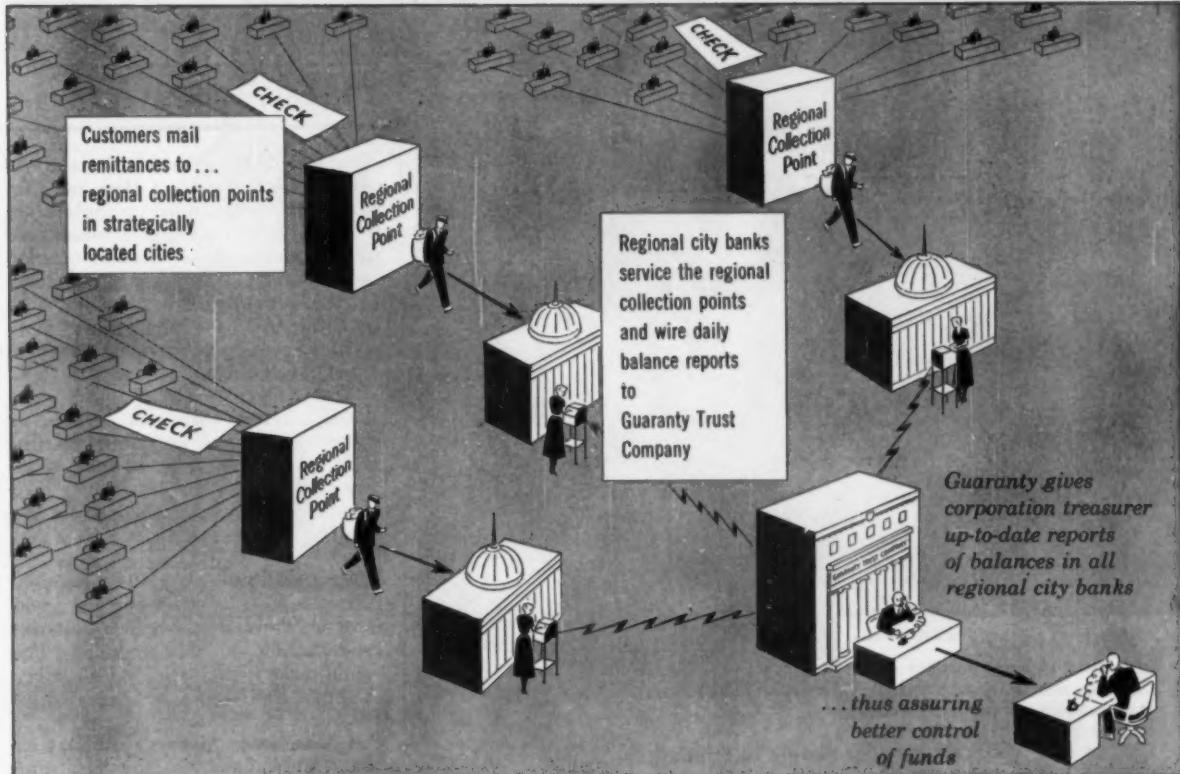
For a while, institutional investors complained because religious bonds were often retired ahead of schedule—the average a year or two ago was 10½ years for mostly 15-year issues. Early call inconveniences an investor by obliging him to reinvest his funds elsewhere, and underwriters ordinarily see to it that the offering is sweetened with a premium, paid by the borrower, if an early call is anticipated.

In mid-1956, when money got tighter, underwriters convinced issuers that they should make their bonds non-callable for five years, and this is now a fairly standard provision.

• **Who Buys the Bonds?**—Especially in the longer maturities, the life insurance companies are the biggest buyers. New York Life Insurance Co. alone holds about \$20-million worth—probably more than any other institution.

On the other hand, many insurance companies compete with the bond underwriters by making direct loans to churches through their mortgage departments. Some companies don't own a single church bond bought outside. One of the big direct lenders is Northwestern Mutual Life of Milwaukee, which has lent more than \$17-million to churches and well over \$50-million to institutions of which approxi-

Guaranty's National Clearing Plan Speeds Collections Coast-to-Coast



Collection system saves time, reduces check "float" time, cuts down credit risks, and establishes better control of funds.

"Time is money"—this statement is probably truer today than ever before in American business. The Guaranty National Clearing Plan, designed to help companies doing business over a widespread geographical area, offers these specific benefits:

- Cuts the time element in the collection of your customers' check remittances.
- Makes quickly available to treasurer each day vital balance information in your depositary banks.
- Makes easier and speeds the flow and transfer of funds throughout your depositary bank network.
- Gives you finger-tip control of funds in depositary banks through-

out the area of your company's activities.

The plan itself is flexible and can be tailor-made to suit the requirements of your own particular company. Basically, the plan involves three major procedures:

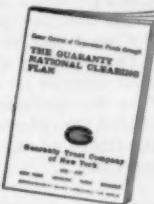
1. Fast collection of customers' checks. Through Guaranty's Clearing Plan, remittance collection routines are set up with regional city banks. Customers are instructed to send remittances to either designated Post Office Lock Boxes or to the company's own branch offices. These regional collection facilities are serviced by the regional banks, thus saving as much as five days of check "float" time.

2. Daily bank balance reports. Each day Guaranty furnishes treasurer up-

to-date reports of balances in all regional city banks serving as collection concentration centers.

3. Rapid transfer of balances. On instructions from company, accumulated balances in regional city banks are transferred to corporation's central bank.

If you would like to receive more information about The Guaranty National Clearing Plan, simply write on your business letterhead for a complimentary copy of "Better Control of Corporation Funds through The Guaranty National Clearing Plan." Address Dept. BW-11.



GUARANTY TRUST COMPANY OF NEW YORK



Capital Funds in excess of \$400,000,000

Fifth Ave. at 44th St., New York 36 • Madison Ave. at 80th St., New York 21
40 Rockefeller Plaza, New York 20 • London • Paris • Brussels

Member Federal Deposit Insurance Corporation

ANOTHER IN A SERIES about a partner in your business



Imagine a camera, possibly 40 feet long, able to focus to within a thousandth of an inch, and costing as much as \$30,000. That, in fact, is the instrument this Offset Cameraman uses in photographing "copy" for reproduction by offset lithography.

To reproduce original art, photographs or color transparencies your original copy is photographed by the Offset Cameraman through a fine screen. On the photographic negative, the screen breaks the image into thousands of tiny dots that by their size and form determine the various tones. Line drawings or type, having no tonal variations, are photographed without the screen. Exposure and development of the film must also be precise.

The printing quality of the plate depends on these factors. Thus the excellence of the final printed job reflects the skill and knowledge of the Offset Cameraman.

People in Printing:

THE OFFSET CAMERAMAN

The Offset Cameramen and the other craftsmen of the graphic arts are charged with printing your message attractively and interestingly—the way that speaks best for you.

Collectively, as members of your printer's team, they provide an indispensable assist to your business operation.

You can rely on their knowledge and workmanship in every phase of printing. That goes for paper, too. Check with your printer on the best paper for your next printing job. Or write New York & Pennsylvania Co., 425 Park Ave., New York 22, N. Y.

New York and Penn Pulp and Paper Manufacturers

MAKERS OF PENN/BRITE OFFSET • PENN/GLOSS PLATE • PENN/PRINT PAPERS: EGGSHELL • ENGLISH FINISH
ENGLISH FINISH LITHO • SUPER • CLARION PAPERS: DUPLICATOR • MIMEOGRAPH • BOND • TABLET

mately 70% are affiliated with churches.

Banks are the next most important buyers of church bonds, but only the maturities up to five years.

Pension funds, trust funds, and individuals round out the list of investors. Those who avoid the issues cite the difficulty of analyzing and evaluating them, and the fact that the property pledged as security is of a one-purpose type, with dubious resale value.

FINANCE BRIEFS

New York State refused to let auto insurance companies raise their rates for liability coverage—now compulsory in the state—by 9 1/2%. The companies failed to substantiate their estimates of 1956 losses, said the insurance superintendent. (Already some drivers in New York City pay \$330 annually for the minimum coverage prescribed by law—highest in the country.)

Vassar College students, some 20 strong, ornamented the annual meeting of R. H. Macy & Co. in New York. The girls were supplementing book learning with some first-hand observation.

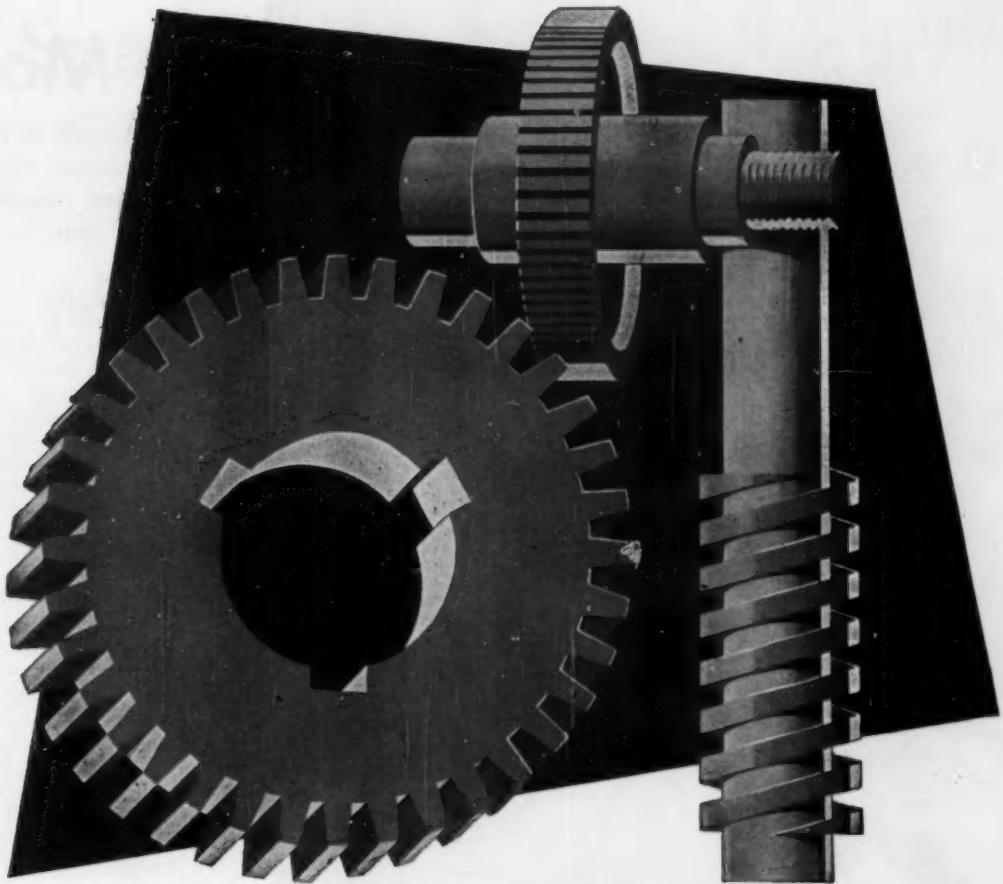
The biggest bank in Dallas, Republic National, has asked stockholders to vote next week on a proposal to increase capitalization to \$102-million. This would make it the nation's 17th largest in capital and surplus.

Pan American Airways' earnings fell from \$6.7-million in the first nine months of 1956 to slightly under \$6-million in the same period this year. The reasons: termination of subsidy payments and a sharp drop in revenue from the sale of used planes.

October dividends were about equal to those in October last year, the Commerce Dept. reported. In the first 10 months of 1957, the dividend total was \$9-million—3 1/2% better than in the same period of 1956.

Layoffs by the Missouri Pacific RR since March come to some 3,500 with the furloughing of about 1,350 more workers last week. MoPac blamed declining business and high wage costs (BW-Nov. 16 '57, p77).

A "Cost-of-Living" bond is being offered by the Farm Bureau Cooperative Assn. of Columbus, Ohio. If the cost of living rises, interest payments on the bond will rise from a guaranteed 4 1/2% to a top of 7.1%. However, there is no provision for protecting the principal from inflation.



WHEEL OF FORTUNE

The metal fabricator with modern machine tools controls his own wheel of fortune. He can knock out the not-so-lowly cog or any metal product accurately and efficiently—that means profits. How to buy vital new machine tools—or any production equipment?

COMBINE MACHINERY FINANCING WITH DEPRECIATION BENEFITS

PAY-AS-YOU-DEPRECIATE PLAN—a modern C.I.T. Corporation financing concept for all new production equipment—gives you terms up to ten years. Monthly payments drop annually in relation to the faster depreciation methods. In effect, you write off your monthly payments as expense. For complete details write or call any office listed below.

Financing new production machinery on the Pay-As-You-Depreciate Plan or other plans suited to your needs is offered by C.I.T. Corporation—a wholly-owned subsidiary of C.I.T. Financial Corporation: capital and surplus over \$230,000,000.

In Canada: Canadian Acceptance Corporation Limited.



ATLANTA, 55 Marietta St., N.W. • CHICAGO, 221 N. LaSalle St. • CLEVELAND, Leader Building
DALLAS, 1309 Main St. • DETROIT, 1625 Cadillac Tower • HOUSTON, 1100 E. Holcombe Blvd.
JACKSONVILLE, 1710 Prudential Bldg. • KANSAS CITY, 210 West Tenth St. • LOS ANGELES,
416 W. Eighth St. • MEMPHIS, 8 North Third St. • NEW YORK, 390 Fourth Ave. • PHILADELPHIA,
3 Penn Center Plaza • PORTLAND, ORE., Equitable Building • SAN FRANCISCO, 120 Montgomery St.

PRODUCTION



SPIDERLIKE king crabs scuttle about deck of Wakefield company's mother ship, Deep Sea, or swim in salt water tanks while awaiting executioner's knife and then processing.

A Monster

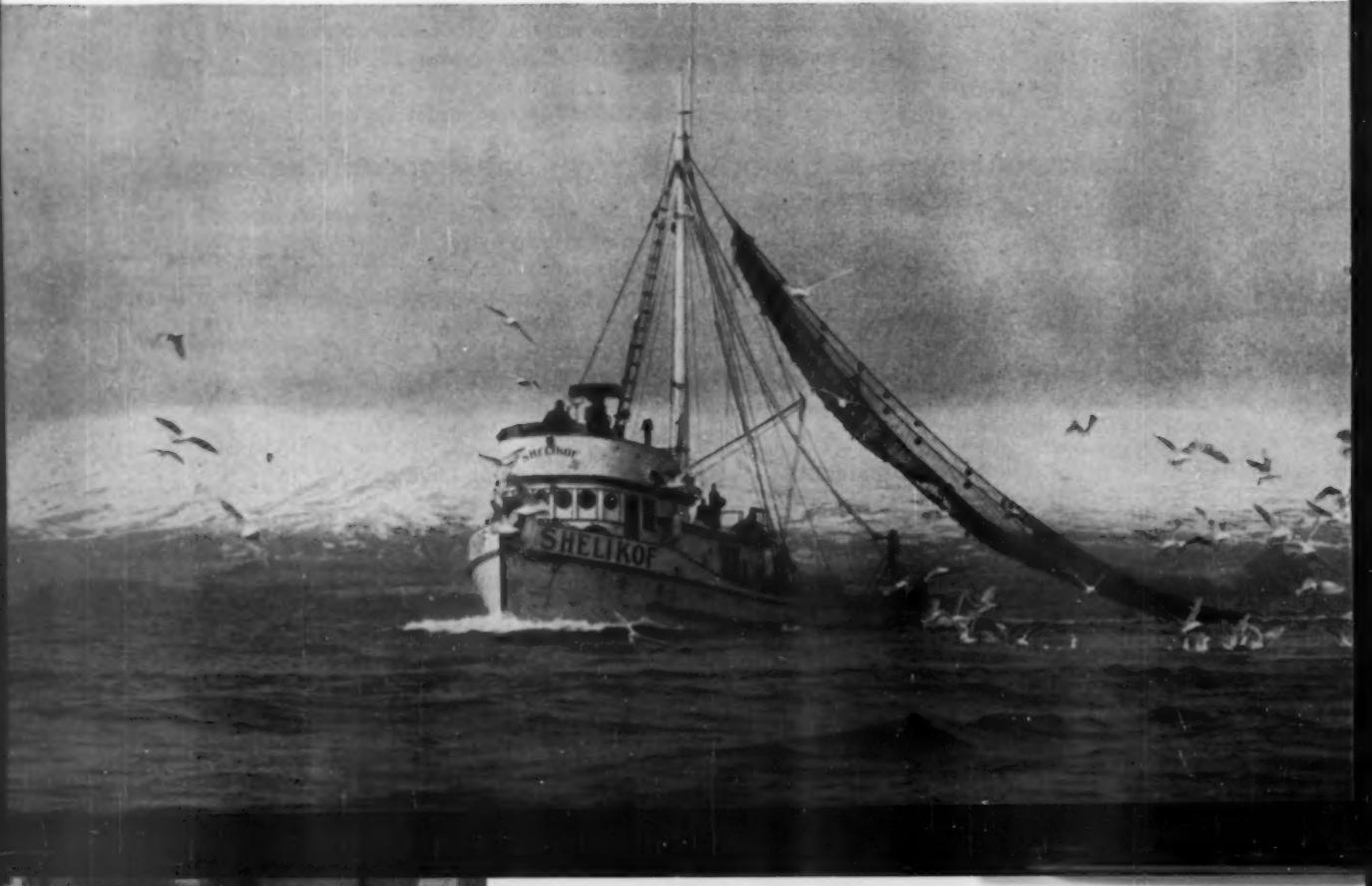
King crab of the Aleutian deeps provides tasty, easy-to-get-at meat despite his something less than lovely exterior.

Down along the lonely chain of the Aleutians and the coast of Alaska, where the cold North Pacific Drift swerves southward to form the California Current, there dwell in scuttling repulsiveness the giant king crabs. These spiderlike monsters frequently have a claw-to-claw span topping 6 ft., all of it ugly—but quite a large part of it delicious meat (pictures).

Since World War II, these crawlers of the ocean bottom—which even a mother crab would find it hard to love—have been providing a tidy living for some case-hardened deep sea fishermen.

The annual catch has been growing steadily. Last year, the largest outfit—Wakefield's Deep Sea Trawlers, Inc.—processed some 2.5-million lb. of king crab meat, which wholesales at about \$1 a lb. This year the pack for the whole industry is expected to run close to \$6-million.

- **Fine Flavor**—Admirers of king crab meat claim that it comes close to matching the delicate flavor of the best smaller crabs, when properly processed, though this view finds dissenters among the aficionados of Washington State's Dungenes crab. There are even those



That Spawns Handsome Profits



LONG ON MEAT, SHORT ON CHARM. King crabs frequently have a span of 6 ft. Biggest one caught lately weighed 24½ lb.



PROCESSING. Leg meat and claws of king crabs are cooked in boiling sea water aboard the Deep Sea. Then meat is frozen, taken to company shore bases.

SMALL TRAWLERS, like the Shifikof (left) snare king crabs—and miscellaneous fish—in huge nets. Catch is taken alive to the Deep Sea for processing.



PACKAGING. Cooked and frozen legs of king crabs go into 10-lb. boxes for sale.

(Story starts on page 90)

who would rather munch a king crab than a Maine lobster.

The king crab has another virtue besides its flavor. The meat—up to 3 lb. of edible muscle in its claws and long legs—can be separated from the shell more easily than with other crustaceans. It's no trick at all to extract a neat chunk of meat, about 7 in. long and 1 in. in diameter, from a section of the tubular legs that link the lobster-sized claws to the small, meatless body. This means that most of the processing can be done at sea, on mother ships with fairly sparse crews.

The business of catching king crabs first drew the attention of the Wakefields in the 1930s. The family company was then concentrated on herring. Since the herring season lasts only three months, the Wakefields began to cast about for another fish crop so they could offer the steady employment that held the best fishermen on their boats.

• **First Attempts**—At that time, American acquaintance with king crabs was limited to the few found in shallow

water, and taken in standard crab pots. In deeper water, the Japanese caught a few, which they sold in the U.S. but nothing was known about the animal's habits or life cycle, and American efforts ended in failure.

As interest perked up, Congress in 1940 directed the Fish & Wildlife Service to make a two-year survey of the king crab fishing grounds, which turned out to be the deep, cold waters off the Aleutians, usually between 200 ft. and 500 ft. Then Pearl Harbor exploded before anyone could take advantage of the new information, and the crabs were left to their own devices.

• **Heavy Trawler**—When the war ended, Lowell Wakefield reorganized the family company into Wakefield's Deep Sea Trawlers, Inc., and built a 140-ft. trawler, the Deep Sea, modeled on the Atlantic Ocean type, which is designed to stand rougher water than the usual Pacific and Alaskan vessels. The Deep Sea was equipped to process and freeze crab meat, as well as to haul the nets, are 150 ft. long, and 120 ft. wide at the mouth.

Several years' experience showed that

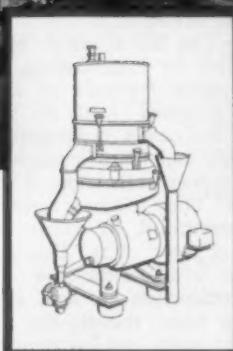
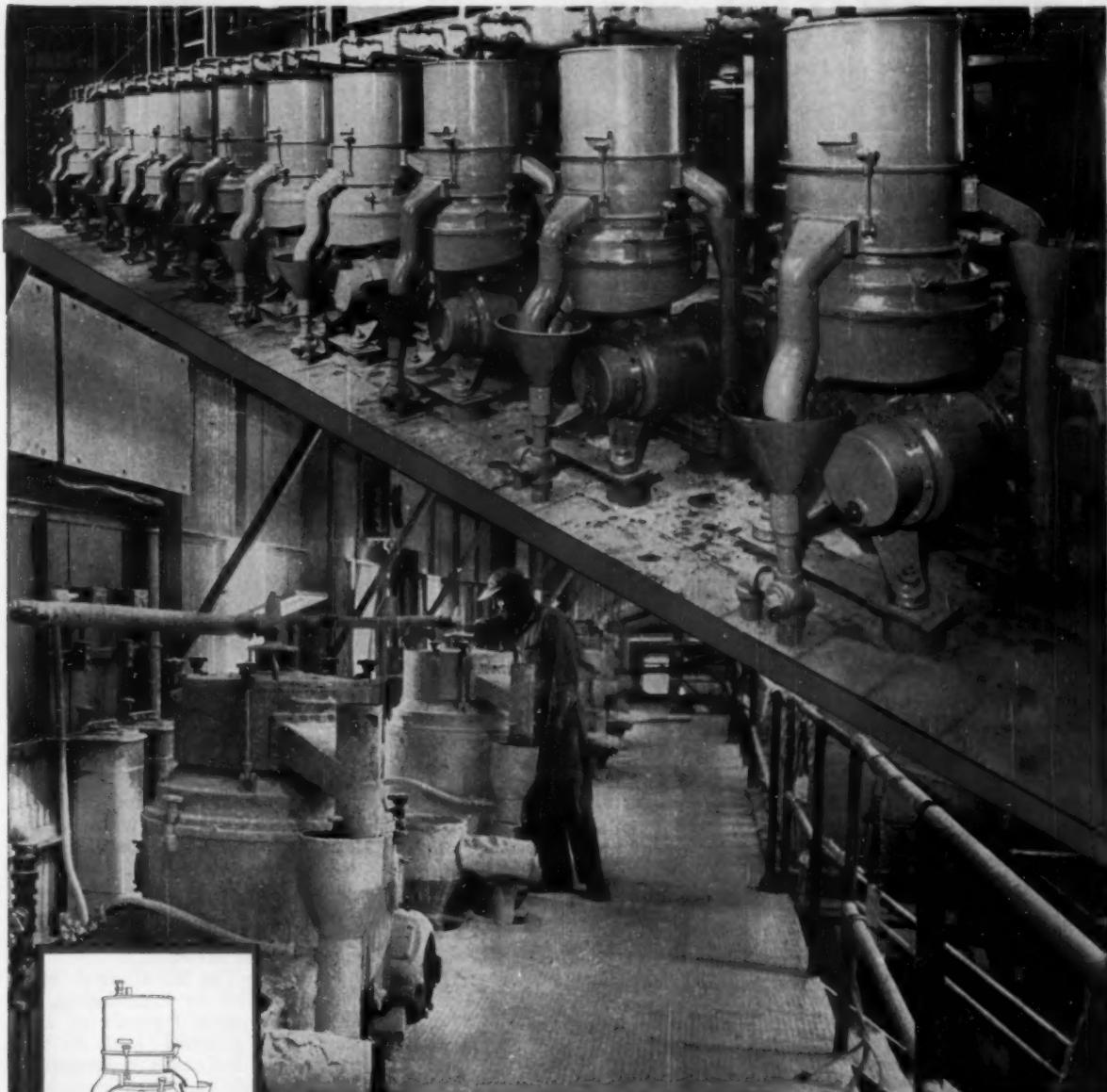


STORMY WATERS of Bering Sea make crabbing perilous. Here trawler Shelikof takes green water over the gunwales.



REPAIRS. Huge nets used by the trawlers have 6-in. mesh, need constant repairs both aboard ship and, as here, at shore bases.

THESE DE LAVAL "NOZZLE-MATICS"® provide continuous profits...



...in an incredibly vast range of applications! Above you see a battery of De Laval "Nozzle-Matics" continuously producing top quality fish oil in a large

Eastern plant...insuring top quality product, lighter color, lower FFA content. Below, another battery of De Laval "Nozzle-Matics" continuously processes clays used to achieve the

flawless, super-smooth surface of coated papers.

De Laval Centrifugals can solve the toughest processing problems...no matter what you make...can clarify, separate, concentrate, purify, dry and standardize continuously...with peak efficiency.

Get all the facts on how De Laval improves products and profits...today!



DE LAVAL
SEPARATOR COMPANY

Men who build for the future choose TRION clean air

Read what James P. Haight, Vice President, Aluminum Co. of America, writes about TRION in the ALCOA Building



"Trion is one of the building's important features . . . cost for cleaning and maintenance much lower than anticipated . . ."

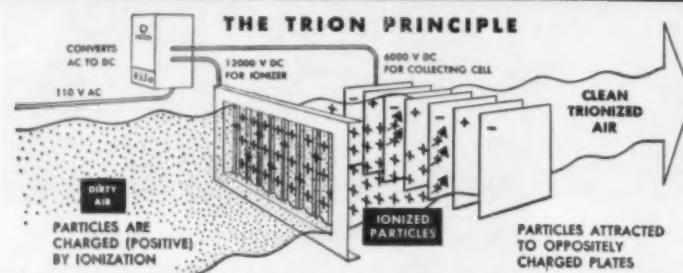
Air in the Alcoa Building, Pittsburgh, Pa., is electronically cleaned by Trion. Airborne dirt, dust, smoke, soot, pollen, germs are practically eliminated. Walls, ceilings and furnishings stay bright and clean longer. In fact, it is estimated that savings on maintenance will pay for the Trion equipment within three years.

TRIONIZED AIR IS MORE THAN FILTERED AIR

Trion is much more than a filter. It traps even sub-microscopic airborne particles and washes them automatically down the drain. You'll find Trionized air pays for itself in your business buildings, a cost-saving comfort in your home. Investigate Trion today.



ANY BUILDING BENEFITS FROM TRIONIZED AIR. Trion cleans air in hospitals, hotels, office buildings, food plants and other buildings throughout the world.



Trion removes practically all airborne particles, even as small as 1/2,500,000th of an inch, by National Bureau of Standards Dust Spot Test.

THE TREND IN MODERN BUILDINGS IS TO TRION ELECTRONIC AIR CLEANING

Look in Yellow Pages under Filters-Air or write:

TRION, INC.

McKees Rocks, Pa.



In Metropolitan Pittsburgh



MASSIVE CLAW of a king crab crushes tin can as though it were paper.

the Deep Sea burned too much fuel to serve as a trawler, and it was gradually shifted over to the role of mother ship for smaller trawlers.

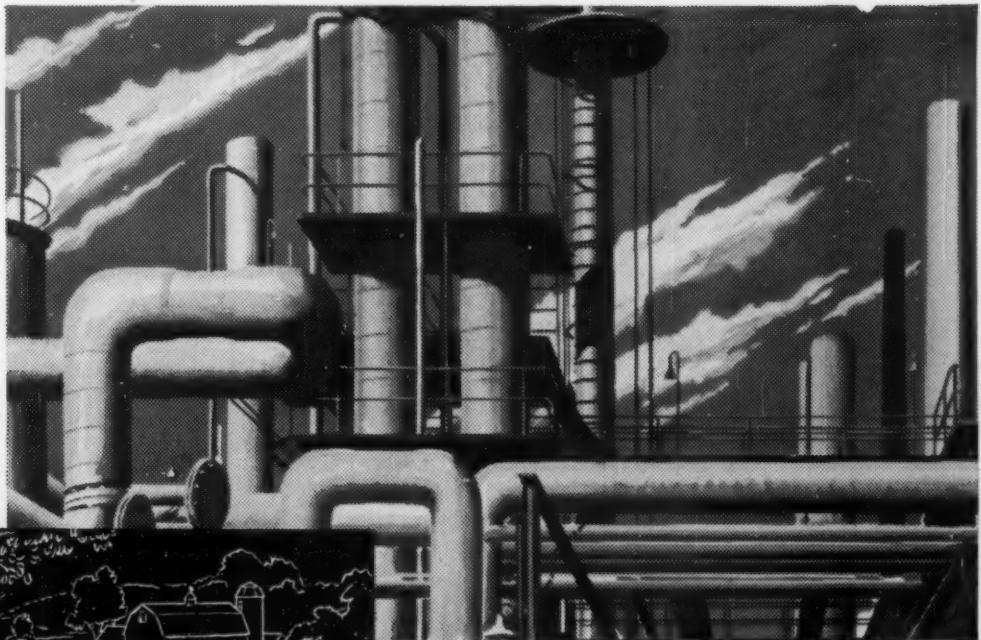
Besides the mother ship and its brood of three, the Wakefields now operate shore processing plants at Port Wakefield and Sand Point, in Alaska, which buy catches of independent crabbers.

As for the Deep Sea, it can store and freeze 170 tons of crab meat. The crew of 28, divided into two watches, works for a combination of wages and share of the catch. Frequently, the eight hour watches run on to 12, with time and a half pay for the extra work. Once the trawler is loaded, she darts to the nearest shore-based refrigerated warehouse to unload. Eventually, coastal steamers, with freezer equipment, take the meat to the Wakefields packaging and distributing headquarters at Bellingham, Wash.

• **Processing**—The life at sea is busy. The huge trawls are dragged along the bottom and their contents of king crabs, plus a mixed haul of fish, smaller crabs, and debris, is dumped on the deck. Male crabs large enough to be used are thrown into tanks of circulating water. Their feminine consorts are dumped overboard, to resume the manufacture of more crabs. The likelier fish in the haul feed the crew.

On board, the crabs are kept alive till processing time, though the un-wontedly warm water and low pressure in the tanks makes them sluggish. The crabs are killed by slamming down their backs on a fixed blade. This knocks loose legs and claws, which are immediately boiled in sea water; the rest of the crab is sliced overboard.

The cooked parts are cooled, and



**INDUSTRY, TOO,
THRIVES IN**

MISSISSIPPI'S RICH DELTA FARMLANDS

Texas Gas Transmission Corporation directs your attention to a most advantageous plant location site: the Greenville-Clarksdale area of western Mississippi. Here a diversified agriculture contributes to a dynamic industrial growth pattern.

Through the magic of chemurgy, soybeans, cotton, wood and other crops are turned into myriad industrial products. This region offers mineral resources, plentiful water, friendly, adaptable labor, a

moderate climate, and a strategic location for shipping and for markets.

Indispensable natural gas is available in any desired quantity. Transmitted by the pipeline system of Texas Gas Transmission Corporation, it is distributed locally by the Mississippi Valley Gas Company for every domestic and industrial use.

Write, wire or phone Texas Gas Transmission Corporation, Owensboro, Ky., for complete details on this thriving area.



TEXAS GAS

General Offices Owensboro, Kentucky

**TRANSMISSION
CORPORATION**

An audit of your
lighting needs can cure
"Invisible Absenteeism"



It isn't always indifference that keeps people at the water cooler more often than at their desks. Frequently, inefficient and ineffective lighting is the cause of "invisible absenteeism." Cure: A call to your authorized Lightolier distributor. He can audit your lighting needs, show you units such as the Optiplex illustrated. It's a trim, efficient fluorescent—entirely glare-free—easy and inexpensive to install and maintain. For a free brochure write today to LIGHTOLIER, Dept. BWO, Jersey City 5, New Jersey.



LIGHTOLIER 

Architectural and Residential Fixtures Portable Lamps

THEATERS

look to...**CLARAGE**
for air handling and
conditioning equipment

Behind the scene in theaters of all sizes, in all parts of the nation, you'll find Clarge fans and units on the job. Faithful performers! Whatever your air handling and conditioning requirements, call upon Clarge—dependable equipment for making air your servant.



Clarge specializes—builds air handling and conditioning equipment exclusively.

CLARAGE FAN COMPANY

KALAMAZOO, MICHIGAN

the meat stripped off. This is easy with the shorter leg sections, but the longer parts used to require breaking and laborious hand picking. Recently, the Wakefields found that the meat can be forced out in one piece by sea water under pressure, while the cartilage stays in the shell. Compressed air had been tried first, but proved to be too damaging to the meat.

After the preliminary cleaning, the meat is run over a long stainless steel conveyor, where one crew picks out remaining bits of shell. At the end of the line, the packing crew weighs out the meat in 17.2-lb. packs, for sharp-freezing at -25F. Some of the meat is packed as whole legs, in 10-lb. lots. The packs are stored at zero F.

The Deep Sea can handle between 3,000 and 3,500 crabs a day, which processes down to about 10,000 lb. of meat. Crabs taken around Kodiak and Sand Point, south of Aleutians, run between 8 and 10 lb.; in the Bering Sea they run a pound or so lighter. The heaviest crab caught lately was a six-footer weighing 24½ lb.

• **Packaging**—At Bellingham, the Wakefields package all their meat, whether from the Deep Sea or from independent crabbers, under the family label for the retail and commercial trade. The retail units are 6-oz. solid chunk of meat, cut from the Deep Sea's 17-lb. blocks, or in 12-oz. packages of legs split in half before they were removed from the shell. For the commercial trade, the units are 2½ and 5 lb. blocks of meat, or 10 lb. boxes of cracked legs.

• **Market in the East**—All these packages from the Pacific find their largest market in the states east of the Mississippi, which absorb four-fifths of the whole catch.

The Wakefields still claim to supply more than half of the total market, but their rivals are gaining. In the past five years, main competition has included: J. E. Shields' ship, the Nordic Maid, which does mostly canning rather than freezing; canning and freezing by King Crab Fisheries, at Kodiak; Pacific American Fisheries, Alaska's largest salmon cannery, which this year is starting to can crab at King Cove; canning plants of Seldovia Bay Packing Corp. at Seldovia, and Alaska Fresh, at Homer.

The Japanese are also offering varied competition. To their earlier shipments of canned crab meat, they added shipments of frozen meat last year. And this year, crab in the shell has also been shipped. There's neither duty nor quota on crab in the shell, while the U. S. has slapped duties of 15% on frozen crab meat and 22% on canned. However, Lowell Wakefield says the Japanese have promised not to expand their Alaskan crabbing operations, at least until after next year. **END**



What! \$42.80 for the material to build a dog house?

(WHAT WOULD IT COST TO BUILD YOUR HOME TODAY?)

Try building *anything* today. The cost may shock you. Take a house that cost you \$14,000 in 1946. Based on national averages by the F. W. Dodge Corp., the same house in 1957 would cost you \$21,300!

Unless you can afford to take a substantial loss, you should have enough insurance to duplicate your home at *present* costs. See The Home Insurance agent in your community now. He sells insurance you can count on when you need it.



THE HOME *Insurance Company*

Home Office: 59 Maiden Lane, New York 8, N. Y.

ORGANIZED 1853 FIRE • AUTOMOBILE • MARINE

The Home Indemnity Company, an affiliate, writes Casualty Insurance, Fidelity and Surety Bonds. A stock company represented by over 40,000 independent local agents and brokers.

CLIMATE means *Bigger profits*

in industrial
LONG BEACH

Southern California



How? Plant costs are lower. If you build, lighter materials and simpler methods can be used. If you rent, what you save on heating (compared to colder climates) may just about pay the rental. No frost-line troubles here. No snow to remove.

The 10-year average winter temperature is 55.5°. Summers are dry and healthful. Industrial air-conditioning is not needed except for critical processing. Ocean breezes cool and cleanse the air.

INDUSTRY BENEFITS from a Better Harbor

America's
Most
Modern
Port



Climate is an important aid to you at the Port of Long Beach, too. Severe storms are virtually unknown, assuring safe, on-schedule operations. In addition to the Port's many huge, clear-span transit sheds and warehouses, there are nearly 2½ million square feet of outdoor storage space, useable on a year-round basis.

Our climate, superior as a profit factor to industry, is only one of the 12 outstanding advantages Long Beach offers to industry.

Send for these!

Long Beach Chamber of Commerce
121-B Linden Avenue
Long Beach 2, California



- Please send literature on industrial Long Beach
- Send your Port magazine, "Harbor Highlights"

Name _____

Address _____

City _____

State _____

**LONG BEACH,
CALIFORNIA**



Race for Speed Puts New Shapes in Sky

Huge jets and turbo-props, giant 'copters, strange convertiplanes will soon streak through sky, transforming air travel.

The planes you see below and on page 103, now being tested and readied for production, will bring some radical changes in air travel—and in the lives of traveling executives, too.

Some of the new planes—the big jets such as Boeing's Jet Stratoliner (page 103) and the coming Douglas DC-8s and Convair 880s—will literally cut the size of the world in two. They'll make round-the-world flights a 40-hour proposition, bring U.S. coast-to-coast flights within a little over four hours. The new turboprop liners—Lockheed's Electra (below) and Fair-

child's F-27—will help speed things up, though turboprops, of course, are already doing their stuff, with Capital Airlines and Trans-Canada Air Lines using British-built Vickers Viscounts.

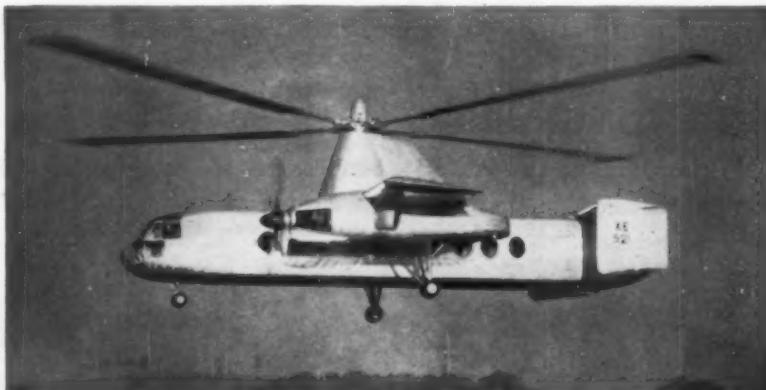
The aviation buff, though, will probably find more to marvel in the giant helicopters and strange-looking convertiplanes being groomed for the really short-haul flights. In the U.S., these include McDonnell Aircraft's XV-1 convertiplane, Vertol Aircraft's tilt-wing Vertol 76, Bell Aircraft's XV-3 tilting rotor convertiplane.

The businessman looking for a speedy private craft to match the big fellows for business use may find his answer in something like Lockheed's Jet Star (page 103), or Grumman Aircraft's planned 10-12 passenger turboprop.

(Story continued on page 103)



LOCKHEED ELECTRA, first U.S. Turboprop liner, a \$34-million, 400-mi.-an-hour monster, carrying 66 to 85 passengers, is undergoing ground tests; air tests will come soon.



BRITISH hybrid, the Rotodyne, was recently flight tested; it's first commercial convertiplane, takes off like helicopter but speeds at 200 mph. carrying 48 passengers.

Your Dreams for Building that New Plant CAN BE A REALITY...

MASSEY-HARRIS-FERGUSON
USED THE COMPLETE SERVICES
OF CUNNINGHAM-LIMP COMPANY



Detroit 2, 3087 K W. Grand Blvd. • TRINITY 3-4000

INDIANAPOLIS, INDIANA, 507 ILLINOIS BLDG., MELROSE 4-2397
KANSAS CITY, MISSOURI, 909 SCARRITT BLDG., VICTOR 2-8791
ST. LOUIS 6, MISSOURI, 316 LINDELL TRUST BLDG., OLIVE 2-0200

also Cunningham-Limp Company, Ltd., in Canada

THESE SERVICES WILL PAY OFF FOR YOU

- ★ Engineering analyses and reports
- Site selection—planning—development
- ★ Plant layout
- ★ Machinery moving
- ★ Materials handling methods and systems
- ★ Equipment design—purchase—installation
- ★ Building design and engineering
- Building construction, including
- ★ Industrial plants
- Warehouses
- Research laboratories
- Chemical process plants
- TV and Radio facilities
- Commercial buildings
- ★ Railroad and Utility facilities

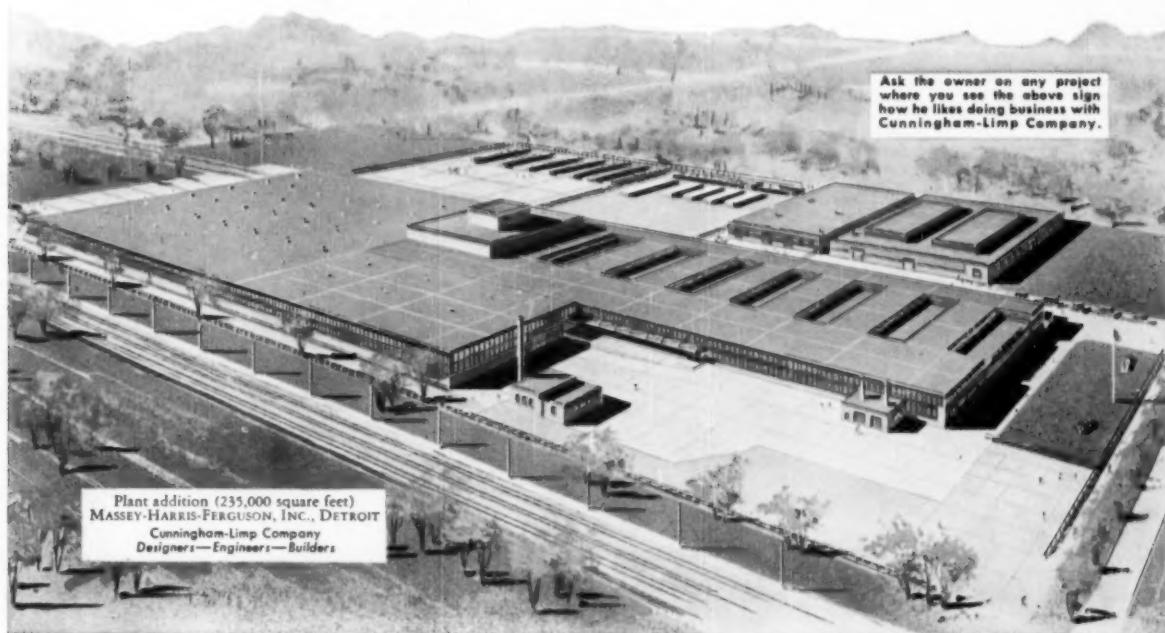
Those dreams you have for your own business—perhaps they are epitomized in this recent addition to the M-H-F facilities. Of first importance—this project was engineered to shelter the production operations that go on within it, so that the lowest possible manufacturing cost-factors would prevail. Then these functions were integrated in the plant layout to utilize the most modern cost-reducing methods of production, assembly and materials handling. All materials entering into the design—engineering—building of the structure were specified, purchased, and erected according to the latest techniques of the engineering-construction industry so that the first cost and the annual maintenance costs would contribute further to reduce the costs and increase the quality of the M-H-F tractors produced within it.

Why 90% of C/L's volume comes from repeat orders

If you do not now have such a plant, it is a good guess that you dream of the day you will have one, for most top men in Industry realize the need for modern plant facilities... This M-H-F plant was completely designed—engineered—built by Cunningham-Limp. The complex conveyor systems to assemble several basic tractor models with innumerable variations were designed, purchased and installed by C/L as were various other items of equipment. In fact, this plant is the end result of using most of the services offered by us... an excellent example of "complete package service."

The red * opposite the various services listed at the left indicate which were utilized in whole or in part in the evolution of this plant, thereby assuring M-H-F a full dollar's value for every dollar spent for design-engineering-building. This assurance is positive, evidenced by the very large percentage—90%—of C/L's volume that comes from repeat orders. Names such as FORD—CHRYSLER—GMC—LATROBE STEEL—ARCHER—DANIELS—MIDLAND—STORER—BROADCASTING—EX-CELL-O—SUNSHINE BISCUITS—etc., which we have served *nationwide*, are on the roll of the many cost-conscious companies who are C/L "repeat" customers. Indeed, you will be in good company when you add your name to theirs—thus indicating your appreciation of a full dollar's value for every dollar spent for design—engineering—building.

A NOTE ON YOUR LETTERHEAD OR BUSINESS CARD WILL BRING THE 58-PAGE C/L BOOK BUT YOU WILL FIND IT OF INTEREST ONLY IF YOU ARE GOING TO BUILD. OTHERWISE IT IS DULL READING BECAUSE IT ATTEMPTS TO GIVE THE LAYMAN A BASIC UNDERSTANDING OF HOW TO GET A FULL DOLLAR'S VALUE FOR EVERY DOLLAR SPENT FOR CONSTRUCTION. IT ALSO DETAILS ALL THE REASONS WHY 90% OF C/L'S VOLUME COMES FROM REPEAT ORDERS AND GIVES A COMPLETE LIST OF OUR "REPEAT" CUSTOMERS.





Northwest Steel's building in Fort Dodge, Iowa, shows how Stran-Steel buildings blend ideally with glass, brick, stone or wood. Design possibilities are limitless.



Note absence of columns and other supports in this trucking terminal. Well-lighted clear span construction throughout facilitates the loading and unloading of cargo.



This executive office exemplifies how interiors, too, can be panelled, furnished and illuminated for striking effects. Adaptation to any décor is a Stran-Steel feature.

THIS IS NATIONAL STEEL

Solving a Housing Problem for Business—Both Small and Big

Economical Stran-Steel buildings go beyond the functional; they are also eye-pleasing

Small business is a vital part of the muscle and bone of our economy . . . whether it's a warehouse, a weekly newspaper, a trucking firm, an appliance store or any one of hundreds of other enterprises that provide jobs and needed services in every community.

One of the problems small business (yes, big business, too!) is constantly facing is that of finding adequate, enduring housing. Buildings "tailored" —for maximum utility—to an individual business' specialized requirements. Custom-built structures without an outsize price tag.

Enter Stran-Steel

And that's where Stran-Steel Corporation—a division of National Steel—comes in. Stran-Steel site-styled industrial and commercial buildings offer modern design and built-in quality, and come in almost any dimensions desired. Yet their low price—and



Attractive, functional, enduring, *economical* are Stran-Steel building applications. This scene of Interstate Dispatch, Inc.,

Milwaukee, Wis., shows loading docks (right), and service, repair and vehicle garage (left). Offices occupy the center area.

easy financing through the Stran-Steel Purchase Plan—brings them within the building or expansion budgets of even the most modest-sized business.

Thousands of these buildings are in use today, and their proved common denominator is *economy*. Owners most often cite these advantages: (1) their pre-engineered construction—a “package deal” which you order ready-made to suit your purposes—means more building for less money, plus very fast erection; (2) all the unobstructed floor space desired because of the absence of columns and braces; (3) fast, easy installation of insulation, keeping air-conditioning and heating costs to a minimum; (4) virtual fire-proofing, with resultant low insurance rates.

Another attractive feature is the use of *Stran-Satin*, a National Steel exclusive. *Stran-Satin* side walls and roofs have an eye-pleasing look of clean, shining strength—blend ideally with other building materials—combine the durability, economy and corrosion-resistance of the finest quality zinc-coated steel with a warm, lustrous surface.

National's Role

Stran-Steel buildings are typical of the many products developed by National Steel to help serve America better. The products reflect National's unchanging policy of producing better and better steel for more and more purposes . . . of the quality and in the quantity wanted, at the lowest possible cost to our customers.

☆ ☆ ☆ ☆

For new catalog giving information on all Stran-Steel products—for use in institutional, industrial and commercial construction—write to Stran-Steel Corporation, Detroit 29, Michigan.



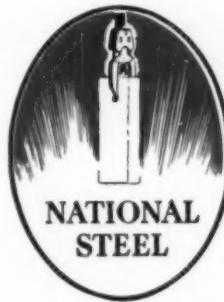
Manufacturers like Hendrix Wire & Cable Corp., Milford, N.H., (above) find Stran-Steel buildings ideal because of their pre-engineered “package” design, swift erection and life-time service.



As at Standard Fence Co., Manchester, N.H., Stran-Steel buildings' flexible modular design permits fast and economical expansion of facilities when production space must be stepped up.



Again, their ready adaptation enables you to plan any entrance, lobby, office design you wish. Example: Record-Press, St. Anne, Illinois. Lower heating, insurance and maintenance costs, too.



THIS IS
NATIONAL STEEL
GREAT LAKES STEEL CORPORATION
WEIRTON STEEL COMPANY
STRAN-STEEL CORPORATION
THE HANNA FURNACE CORPORATION
HANNA IRON ORE COMPANY
NATIONAL MINES CORPORATION
NATIONAL STEEL PRODUCTS COMPANY

NATIONAL STEEL CORPORATION
GRANT BUILDING
PITTSBURGH, PA.



INSURANCE



The best in service... yours for the asking

Let this expert be your "Insurance Department"

Most large firms buy their insurance on a carefully planned basis. Some have special departments to handle details.

Small firms are different. All too often, they have no "Insurance Department," no plan.

A big fire... an unforeseen accident... an embezzlement... a payroll theft... a huge damage suit... any one of these could set a firm back for years. Or put it out of business.

Your Independent Insurance Agent is qualified by training and experience to look out for

your interests. He gives his personal attention to planning the right *kinds* of insurance—and in the *right amounts*—to meet specific needs.

He provides the best in quality insurance and professional service for his clients, *large or small, with or without insurance departments of their own*. So be sure to get his help and advice. And count on us to give him all the assistance he needs when he places your insurance with the Hartford Fire Insurance Company Group.

Year in and year out you'll do well with the

Hartford Fire Insurance Company Group

Hartford Fire Insurance Company
Hartford Accident and Indemnity Company
Hartford Live Stock Insurance Company
Citizens Insurance Company of New Jersey
Hartford 13, Connecticut

New York Underwriters Insurance Company
New York 38, New York
Northwestern Fire and Marine Insurance Company
Twin City Fire Insurance Company
Minneapolis 2, Minnesota





BIGGEST 'COPTER to join the new shapes that are filling the skies (page 98) is Soviet 80-passenger Mil-6. It's powered by twin gas turbine engines, can carry 12-ton payload.



SOVIET TURBOPROP airliner, the TU 114, can fly New York-Moscow run nonstop at cruising speed of 560 mph. with 170-180 passengers, the Russians say; it has two elevators.



BOEING'S JET 707, first U. S.-built passenger jet, recently rolled out of Renton (Wash.) plant; \$5-million giant will carry 109 to 178 passengers, cruising at 591 mph.



BUSINESSMAN'S JET is the 10-passenger, 500-mph. Lockheed Jet Star, designed as military utility plane but adaptable for executive use; it's already being flight-tested.

AIR-MAZING FACTS

BY O. SOGLOW



DAILY DOWNPOUR OF DIRT! As much as 500 tons of it, falls every day on larger cities like New York. Cleaning costs for an average office building of 350,000 square foot space are approximately \$175,000 a year. Much of the cost of cleaning the inside can be cut down when Air-Maze filters and electronic air cleaners are used to take out objectionable air-borne dirt.



ELECTROCUTES DUST! The Electromaze electronic air filter does away with the finest dust and dirt particles. How? With a 10,000-volt jolt of electricity. Wherever super-clean air is required—in offices, stores, and factories—you'll find the Electromaze.



DUST IS DONE FOR! Air-Maze oil-bath filters literally "scrub" compressor intake air clean in a bath of oil. Compressors and engines last longer when abrasive dirt and grit can't get in to damage polished pistons, cylinder walls, rings and valves.

FOR ANY DEVICE THAT USES AIR OR LIQUIDS. For engines, compressors, air conditioners, ventilators . . . or any device using air or liquids—there is an Air-Maze filter engineered to match each need. Filter-trained representative in all principal cities. For condensed product catalog, write Air-Maze Corporation, Dept. A-10, Cleveland 28, Ohio.

AIR-MAZE
The Filter Engineers

AIR FILTERS • SPARK ARRESTORS • LIQUID FILTERS
SILENCERS • OIL SEPARATORS • GREASE FILTERS

NEW PRODUCTS



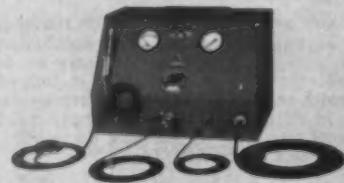
for Super-Fine Cutting
of Hard, Brittle Material...

the *S.S. White* Industrial Airbrasive® Unit

A section was cut from this delicate crystal tumbler . . . just to dramatize the fact that our Airbrasive Unit can open new windows for you in industrial cutting and abrading. Developed from the Airtent® equipment made by S. S. White for the dental profession, the Airbrasive Unit gas-propels a fine stream of abrasives. Fast, cool, shockless cutting action makes it a "natural" for cutting geranium, shaping fragile crystals, removing surface deposits . . . etching, drilling, and deburring hard, brittle materials. To see what it will do on your own product, send us sample parts and details. For further information, just write to

S.S. White

First Name in Airbrasive Cutting



S. S. White Industrial Division, Dept. 15A
10 East 40th Street, New York 16, N. Y.
Western Office: 1839 West Pico Blvd.,
Los Angeles 6, Calif.



Truck That Turns on a Dime

This pint-sized dump truck is designed to transport ore in the low, narrow confines of horizontal mine shafts. With an over-all length of 122 in. and a width of 60 in., it can be turned easily in a radius of 96 in. while carrying loads up to 2½ tons. And in narrow passages where it's impossible to turn, the four-speed-forward and four-speed-reverse transmission operates the truck in either direction at equal speeds.

The truck makes it possible for one

man to load ore, transport it, then dump it. But it should have other uses wherever relatively small quantities of bulk material have to be moved. This Getman 2-D truck costs \$3,450. It has a 20-hp., 2-cyl. engine imported by the manufacturer, Getman Bros. of South Haven, Mich., from Kloeckner-Humboldt-Deutz A.G. of Cologne, West Germany. Standard trucks with the same load capacity require bigger and more powerful engines.

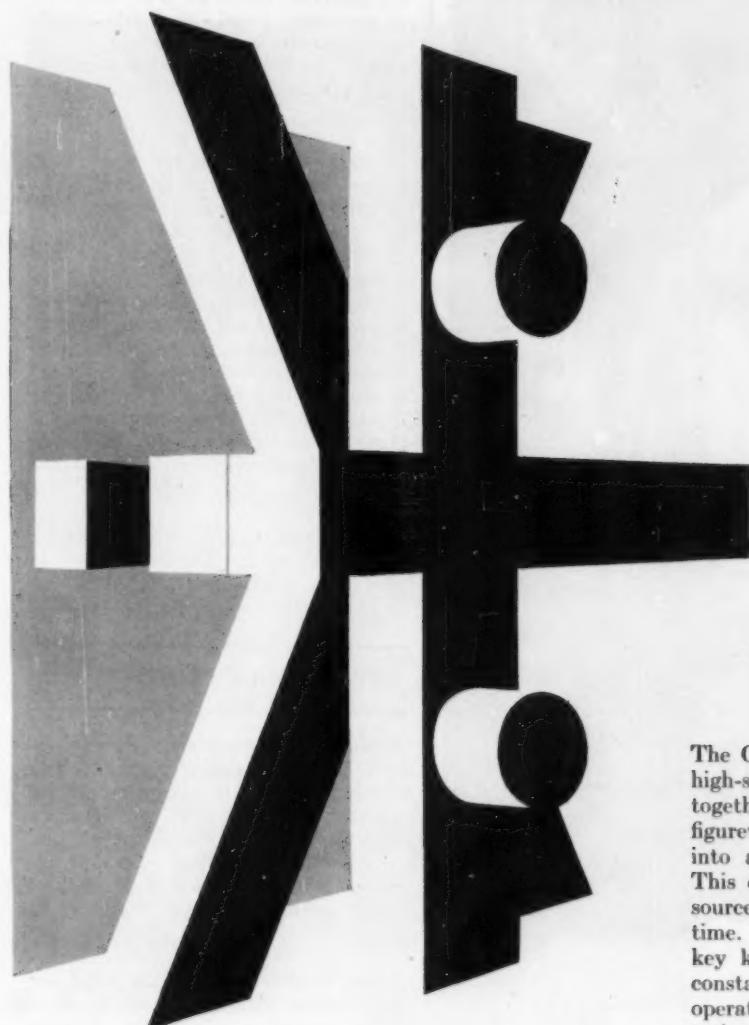


"Saucers" Drop Liquids to Earth

It's quite a trick to drop liquids to stranded hunters, explorers, troops, or anyone else who's cut off from water or fuel supplies. Aside from the danger of missing the target, there's a problem

of containers. Most containers can't stand the terrific impact when they hit the ground.

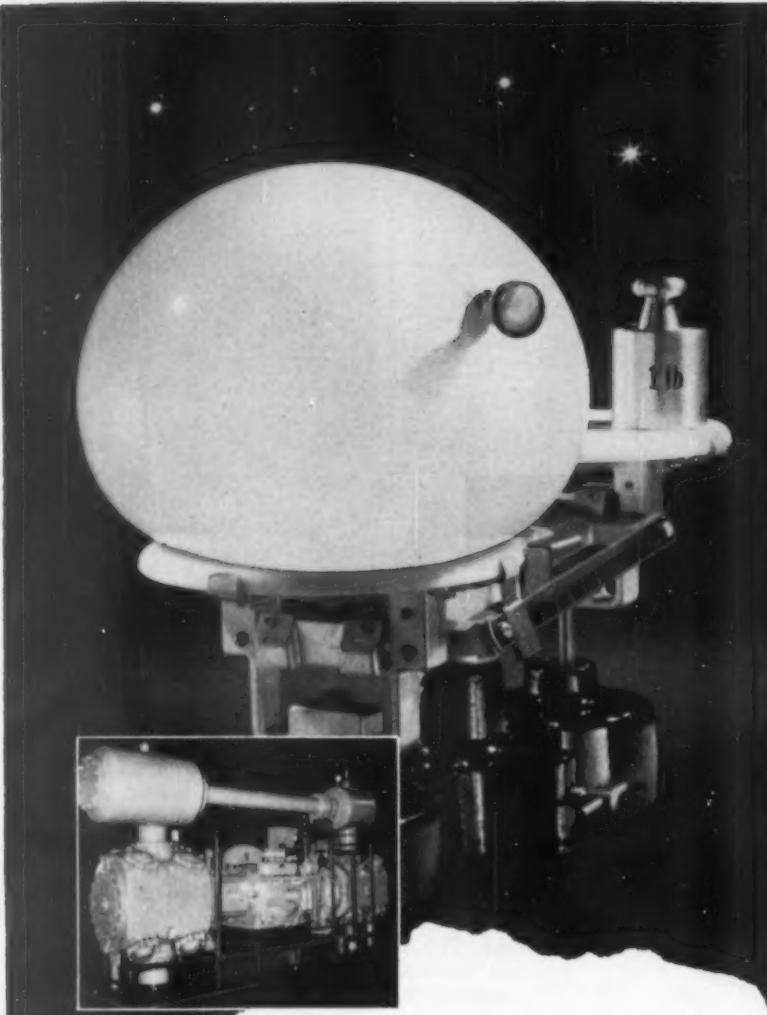
The rubber saucer in the picture was designed by Firestone to overcome



The Olivetti Divisumma 24 is a new high-speed automatic calculator. It fits together the separate parts of a business figurework problem, combining them into a single continuing calculation. This eliminates re-entries, a frequent source of error, and saves considerable time. The machine, with its single 10-key keyboard and unique automatic constant and memory, is quite easy to operate. And, since no business computation is complete until it's on paper, it prints the full record of all calculations. For a demonstration, write Olivetti Corporation of America, 580 Fifth Avenue, New York 36, N. Y.

olivetti





HOW TO BUY SHOP AIR...

at a lower cost per pound

Put in compact compressor equipment that *installs* easily, that operates for years on end with a *minimum* of vibration and downtime, and a *maximum* of mechanical efficiency.

In short, put in Cooper-Bessemer M-Line compressors

... and you've made it!

Get *all* the facts about these modern industrial air compressors, from 200 to 6,000 hp, motor-driven or otherwise. Find out about the *new* things being done by one of America's *oldest* engine and compressor builders. Send for Bulletin M-81, "Air for Industry".

Cooper/Bessemer

GENERAL OFFICES: MOUNT VERNON, OHIO

ENGINES: GAS, DIESEL, GAS-DIESEL
COMPRESSORS: RECIPROCATING AND CENTRIFUGAL
ENGINE MOTORS OR TURBINES DRIVEN

this problem. Inside its 30-in. diameter, it can carry 5 gal. of liquid. Such containers have been dropped from altitudes of 1,000 ft. to 2,000 ft. while filled with more than 50 lb. of liquid and haven't burst. Yet the impact was so great that one falling disk snapped a 5-in. tree in two.

The cover of the container is made of solid rubber with a flapping rubber skirt that helps cut the speed of fall. Cut out of the skirt are two rubber carrying handles.

The liner varies with the liquid to be carried. One is a petroleum-resistant lining for gasoline or other oil-base products; it will keep its contents for at least five days without showing signs of deterioration. The other liner is made of rubber similar to that used in sealing preserves in glass jars. Water stays odorless and tasteless in it for five days.

The containers are being tested by the Army at Ft. Devens, Mass. If they prove satisfactory, Firestone claims it can be in mass production shortly.

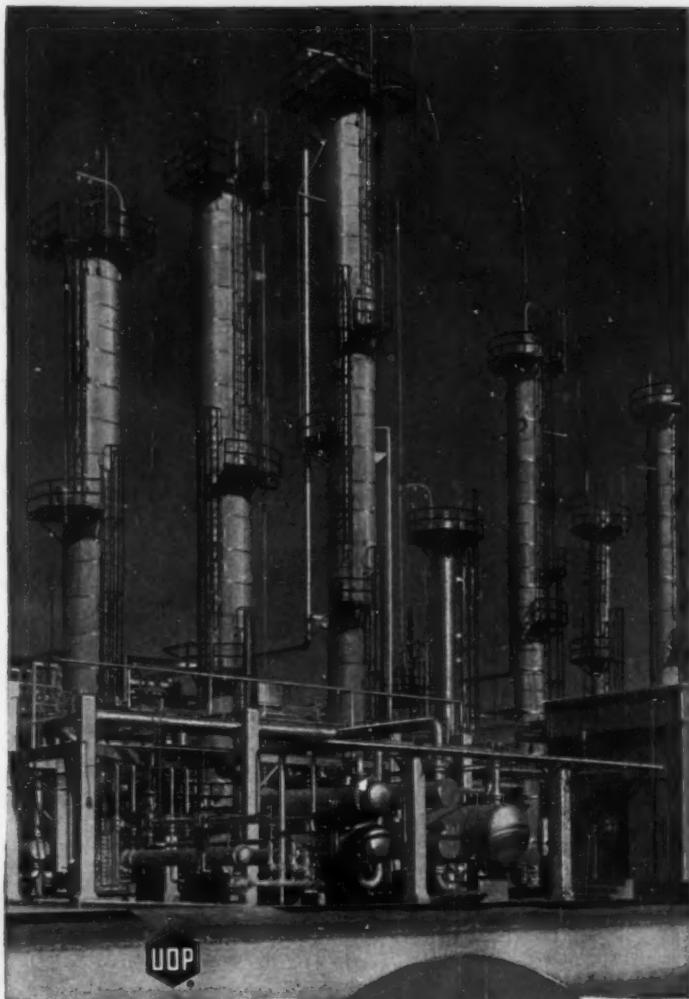
NEW PRODUCTS BRIEFS

A tire tube cleaner that removes soapstone, calcium chloride, grease, and rubber lubricants, to prepare the rubber surface for hot or cold patching, has been developed by Paton Rubber Co., Akron, Ohio. Sili-Clean is said to remove all foreign deposits that might allow patches to leak. Cost: \$1.50 a quart.

A steel window frame for the home can go 10 years without repainting. It is being manufactured by the Truscon Div. of Republic Steel with a new two-coat paint process that seals the steel surface against attacking elements. The windows have also passed field and lab tests for adhesion, salt spray, humidity.

An electric car-door locking system allows the driver or front-seat passenger to lock or unlock all doors of the car by flipping a switch. The Delco-Remy Div. of General Motors developed it as an addition to the manual lock system. Doors can still be locked separately in the conventional way. The new system is optional on all 1958 Cadillacs.

Magnesium bars eliminate varnish and sludge accumulation in fuel storage tanks, a major cause of oil burner breakdowns. Johns Mfg. Co., of Middlesex, N. J., makes a device from a 4-in. bar of special alkaline magnesium alloy, which is suspended in the fuel storage tank by a wire attached to the filler cap. The Magna-Bar attracts the varnish and sludge, which corrode the bar instead of the tank walls.



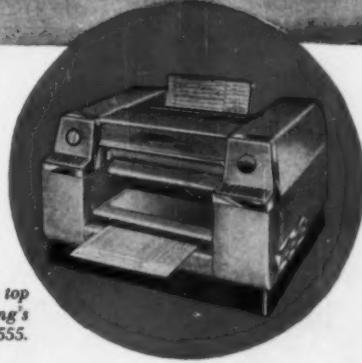
Mr. Warren Dee, head of the reproduction department of Universal Oil Products Company.

"Bruning Copying Machines Slash Paperwork Time and Costs!"

Universal Oil Products Company, world-famous developer and licensor of petroleum refining processes, uses modern Bruning Copyflex copying machines to process 2½ million documents, annually, on a fast one-writing basis.

With Copyflex, Universal Oil Products Company produces purchase requisitions, refinery inspection reports, and sales analyses *directly* from original writings or typings. New entries are added, as necessary, and Copyflex copies made with no clerical rewriting or retyping. Mr. Warren Dee, reproduction department head, states: "Copyflex prevents copying errors, saves valuable time."

You, too, can eliminate a vast amount of clerical work in practically all of your business operations with Copyflex. Machines are clean, odorless, economical—letter-size copies cost less than a penny each for materials. Take advantage of the special literature offer below by mailing the coupon now.



Here is the desk top model in Bruning's complete line, \$555.

BRUNING
Copyflex

Send for your free copies

Charles Bruning Company, Inc., Dept. 111-E
4700 Montrose Ave., Chicago 41, Illinois
In Canada: 105 Church St., Toronto 1, Ont.



Please send me literature on Copyflex for Purchasing-Receiving
 Accounting other applications.

Name _____ Title _____

Company _____

Address _____

City _____ County _____ State _____

Change Comes to Zion's Empire



TEMPLE SQUARE is the heart of the church's vast holdings. In the square itself sit the domed Mormon Tabernacle and spired Temple; church-owned buildings surround them.

The Mormon Church first went into business to supply its people in a desert land. Now its empire is being streamlined.

The buildings you see in the picture at left and the enterprises they shelter form the nucleus of a unique business empire. It's a heterogeneous empire of merchandising, banking, insurance, broadcasting, publishing, food processing, hotel operating, and real estate management.

If you stand at the downtown corner of Main and South Temple Streets in Salt Lake City, you can see most of these properties. It's no accident that from this point you can also see the cradle of the worldwide institution that owns or controls them—the Mormon Church.

- **Intermountain Giant**—The Mormon business empire is probably the biggest—and certainly the most diversified—aggregation of capital in the Mountain West, although its individual units are dwarfed by such giants as Utah industry as Kennecott Copper Co. and Salt Lake Refining Co.

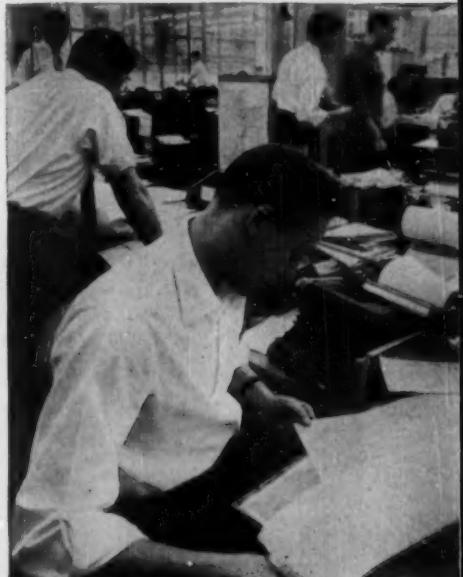
Its founders were motivated by some



TOP JOB in the church is that of Pres. David O. McKay (gesturing). Here he confers on merger of three church-controlled banks.



GENERAL MANAGER Harold Bennett surveys a selling floor of ZCMI. The store has added parking terrace, modern warehouse.



NEWSPAPER owned by church, Deseret News, returned to black after many operations were consolidated with competition.

SUGAR BEETS roll into factory of Utah-Idaho Sugar Co., owned mostly by church. U-I earned \$1.5-million last year.



NEW LOOK in real estate held by church includes just-opened parking terrace. L. Pierce Brady (right), manager of Zion's Securities, has led rejuvenation of Mormon property.

thing far more elemental than profits: Their purpose was to provide the necessities of life in a frontier economy. In the years since, the businesses have rocked along on their own steam, an incidental appendage of the church.

Now a change is creeping over the church's business ventures. Like the church itself, they are responding to the need for expansion and modernization. Church leaders still regard them as a sacred trust, but they are becoming increasingly conscious that greater efficiency can bring greater profits for support of the church's other works.

• **Rugged Zion**—From the naked crags that tower over the valley of the Great Salt Lake, you can see why the church became an entrepreneur in the first place. It was a matter of sheer survival. To the fleeing disciples of the martyred Joseph Smith, this was Zion—but Zion was no land of milk and honey.

Brigham Young, who became the spiritual father of the fugitive Mormons after a mob murdered Joseph Smith in an Illinois prison, personally laid the primitive foundations for two of these enterprises, the department store and the daily newspaper. As need arose, his successors added others.

So unobtrusively has the church administered its business operations that not many people beyond its inner councils know precisely what they are and how much of them the church owns. For example, it's a popular but erroneous belief, even among some Mormons, that the church owns a big piece of the Union Pacific RR. It owns none.

• **Business Directory**—Here is a current inventory of companies controlled by the church:

• Zion's Cooperative Mercantile Institution (ZCMI), a Salt Lake City department store and wholesale distributor with sales of \$27-million; the church owns less than 50%.

- Utah-Idaho Sugar Co., which earned \$1.5-million last year; church owns 80% of preferred stock, about 50% of common.

- Deseret News Publishing Co., which publishes Salt Lake's afternoon paper, operates a commercial printing plant, and has an interest in a paper mill; wholly owned by church.

- Beneficial Life Insurance Co., with assets of \$80-million; wholly owned.

- Utah Home Fire Insurance Co., with assets of \$7.8-million; church owns less than 25%.

- Heber J. Grant & Co., general agent for Utah Home Fire; less than 25%.

- KSL Radio-TV, a CBS outlet; majority interest.

- Deseret Book Co., largest book store in West with annual sales exceeding \$1.5-million; wholly owned.

- First National Bank of Salt Lake City; more than 50%.

- Utah Savings & Trust Co.; more than 50%.

- Zion's Savings Bank & Trust Co.; more than 50%.

- Zion's Securities Corp., real estate management; wholly owned.

- Hotel Utah, largest in Salt Lake, with annual revenues of more than \$2.5-million; majority interest.

- Temple Square Hotel, newest in Salt Lake; wholly owned.

- Orlando Livestock Corp., 260,000-acre cattle ranch in Florida; more than 50%.

All except the cattle ranch are based and have their principal operation in Salt Lake City.

The church is proud that it pays full taxes—federal, state, local—on all these businesses and its commercial real estate holdings, even though it could often claim exemptions.

- **No Smoking**—By any standards, the

church's holdings are flourishing, secular businesses, patronized no more by Mormons than by non-Mormons. ZCMI must toe the same thin line of merchandising ingenuity that Auerbach's, a competitive department store, follows if it hopes to hold the trade of church members.

Only in superficial matters do you detect any difference from nonchurch businesses. In the city room of the morning Tribune, you'd likely find a pall of tobacco smoke. Not so at the Deseret News; the church discourages use of tobacco, as well as liquor, coffee, and tea.

At Beneficial Life there are no morning and afternoon coffee breaks, though you might encounter a milk break.

- **Tea and Tiffin**—In the light of this abstinence from stimulants, ZCMI might surprise you. In deference to non-Mormon customers, the department store operates a Tiffin Room where patrons may be served tea.

Mere existence of the Tiffin Room is symbolic of a subtle change that is creeping over the Mormon Church—properly the church of Jesus Christ of Latter-Day Saints. It's a change dictated both by the physical expansion of the spiritual body and by the growing complexity of the business empire. Like any "holding company," the church is beginning to put greater emphasis on efficient management.

I. A Growing Faith

To spot the trend, it helps to know something about how the church is organized. Supreme authority is vested in a board of three men who constitute the First Presidency. They are the president of the church and the two counselors he chooses to serve with him.

If you were to think of the First Presidency as the executive committee of a corporation, then the board of directors would be the Council of the Twelve Apostles.

Any male Mormon is eligible to become an Apostle. He is chosen by the president with the advice and counsel of the other members of the First Presidency and the Council of Twelve. In practice, he restricts his choice to men who have demonstrated religious zeal of a high order. Appointments are for life.

As an incident of its high station, the First Presidency is both the "supreme court" of the church in spiritual matters and the executive committee in the businesses it controls. The Apostles, in addition to extensive religious duties, serve as directors or administrative overseers in the business corporations.

- **Decade of Expansion**—It was the destiny of David Oman McKay to become president when the LDS Church was undergoing its most vigorous



MERCEDES-BENZ



The Mercedes-Benz 300 SL Roadster

From the first gasoline-driven cars of the world—built by Gottlieb Daimler and Karl Benz—up to the victorious Mercedes-Benz sports cars,

Daimler-Benz AG. has won a world-wide reputation for the advanced quality of its products, symbolized by the famous three-pointed Mercedes-Benz star.

*Mercedes-Benz cars are sold exclusively in the U. S.
through dealers of the Studebaker-Packard Corporation*



Studebaker-Packard

C O R P O R A T I O N

Where pride of Workmanship comes first!

**"IT'S JUST LIKE ADDING
\$250,000
IN SALES!"**



Money saved in production shows up on the same side of the ledger as profits on sales. Dustube® Collectors, by salvaging valuable material, have saved some plants up to \$100,000 and more a year. Even where dust and fume have no salvage value, a dust-free plant pays handsome returns in increased employee efficiency and reduced machine wear and maintenance. Investigate Dustube's record for high efficiency, simplicity and low cost of operation and maintenance.

*Write for Catalog 72-B
Wheelabrator Corporation
461 S. Byrkit St., Mishawaka, Indiana*

WHEELABRATOR®
Dust & Fume Control

"...Mormons were slow to shake off the persecution complex that stalked them from the earliest days . . ."

MORMONS starts on p. 108

growth, from 1-million members in 1947 to 1.5-million now. That 50% increase in membership was accompanied by a corresponding increase in construction expenditures. As closely as any official can estimate it, the church has added \$350-million in temples, meeting houses, and auxiliary structures in the last 10 years.

In a variety of ways, this physical expansion of the church is mirrored in the Mormon people. You become aware perhaps that your son joined a Mormon-sponsored Boy Scout troop; that the meeting house of the Mormon "ward" in your neighborhood holds weekly dances, movies, and theatricals for young people; that the contractor who is building your house is a Mormon bishop. Contrary to the lurid tales about polygamy and odd-ball customs, these are God-fearing, Bible-reading Christians who attribute the United States Constitution, no less than their own Book of Mormon, to divine inspiration. Polygamy, by the way, was renounced as a Mormon doctrine more than 70 years ago.

- **Persecuted Sect**—Mormons were slow to shake off the persecution complex that stalked them from the earliest days. They lost families, possessions, everything but their religious ardor, in their search for the place where, in the words of the Mormon hymn, "none shall molest us from morn until eve." When they found it in 1847, they faced lives of toil and privation in a wilderness known for its inhospitable winters.

Brigham Young sent colonizing parties out to remote corners of the West. Many of the settlements flourish to this day—San Bernardino, Calif.; Las Vegas, Nev.; Mesa, Ariz., among them.

But people in the main were repelled by the consuming piety, the turn-the-other-cheekness, of these industrious lay missionaries, suspicious of the strange words that flecked their vocabularies.

- **Changed Attitude**—When and why these barriers of hostility began to crumble is difficult to say. As recently as 1942, when the government built the Geneva steel plant now owned by U. S. Steel Corp. near Provo, Utah, some Mormons expressed abhorrence at the encroachment of big industry—although the church officially welcomed it. Now they find that the steel mill has bolstered the economy of the Mountain West without disrupting their way of life.

Surely Mormonism has shared with other faiths in the upsurge of religious interest that accompanied and followed World War II. More important,

though, Mormonism was prepared for it and fanned the spark into flame. In the process of finding others eager to learn, even share, their beliefs, the Mormons seem to have emerged from a chrysalis.

II. New Business Ways

Still, the physical growth of the church in postwar years has levied a heavy tax on the human resources of the Latter-Day Saints. Pres. McKay, with a vigor that belies his 84 years, tools off to Los Angeles in his car, hops out to the foreign missions, pays periodic visits to the church's far-flung welfare projects and temples, and still must find time to be president of 11 diversified business corporations. His counselors and the Apostles, ranging in age up to 86, shoulder similar work-loads.

Under such strains, it appeared that either the spiritual vitality of the church or the economic welfare of its businesses must suffer from neglect. This offered McKay no simple choice between God and mammon. Respect for his spiritual obligation dictated the need for close attention to the church's business properties. The more wisely they are managed, the less the church is dependent on the tithes of its members for financial support. Gross expenses are on the order of \$55-million a year.

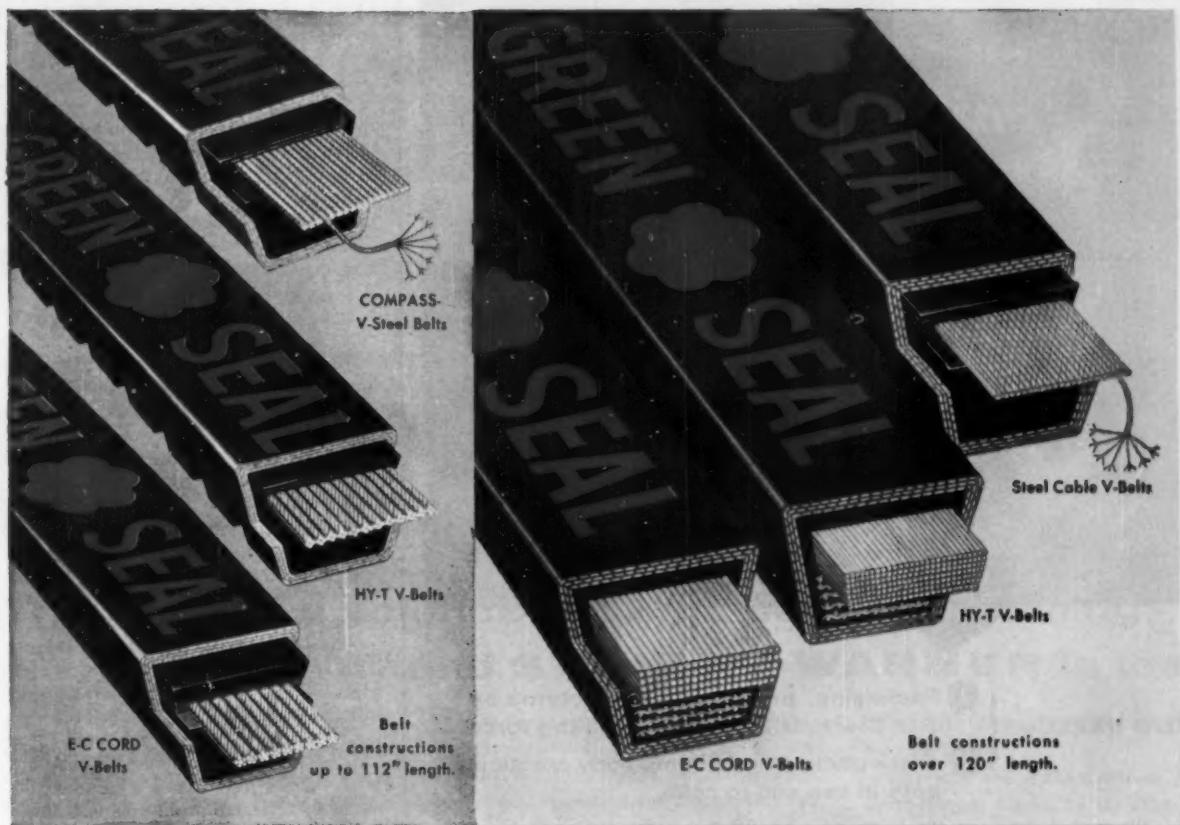
- **New Brass**—Last spring McKay created the office of financial secretary to the First Presidency. To fill the job, he named Dr. William F. Edwards, a Mormon with a brilliant career not only in the church but also in the New York financial community.

If it were possible to produce the "typical" Mormon businessman from a mold, the product would bear many resemblances to Edwards. A native of southern Utah, he worked as a boy in the sugar beet fields, worked his way through the church's Brigham Young University at Provo by driving a taxicab, scrubbing walls, and laboring in the fields.

Edwards married young, sired six children, earned graduate degrees at New York University while working in New York's financial district. He wound up as vice-president and director of research for two investment trusts in New York.

In the East he was prominently identified with church work. The test of his devotion was his response a few years ago to the summons to become, at considerable financial sacrifice, dean

Do you know the inside story of
V-Belts with the **Green Seal?**



Until recently dimensional stability was possible only in V-Belts with steel load-carriers as developed by Goodyear. But now you can have that stability in a complete line of belts — thanks to the development of Triple-Tempered (3-T) cord—synthetic cord tempered by Tension, Temperature and Time.

What's your pay-off from this dimensional stability? When you're belting multiple drives, it's your one guarantee that every set of matched belts will *really* match. No matter how long you store them, they'll *stay* matched, too.

And once they're installed, you've got belts designed

and built to work as a perfect team—without individual belts either "loafing" or overworking. In fact, you're protected from all the usual mismatching headaches that also include slipping, stretching, scorching. In other words, you're belted for maximum trouble-free horsepower hours at minimum cost. There's no substitute for that kind of performance — or for the V-Belts with the Green Seal that give it to you — every time.

So see your dealer about the V-Belts with true dimensional stability—the V-Belts with the Green Seal. Or write Goodyear, Industrial Products Division, Lincoln 2, Nebraska, or Akron 16, Ohio.

DIMENSIONALLY STABLE V-BELTS
 with the **GREEN SEAL** by

GOOD  **YEAR**
 THE GREATEST NAME IN RUBBER

Compass, E-C Cord, Hy-T, Green Seal—T. M.'s The Goodyear Tire & Rubber Company, Akron, Ohio

Watch "Goodyear Theater" on TV — every other Monday 9:30 P.M., E.S.T.

why do
these famous
names
rely on
CLARK
metal
packaging?



- TWO REASONS** { 1 Packaging, precision-manufactured by J. L. Clark, is a powerful selling force;
2 Clark packaging is completely practical, both in use and in cost.

Illustrated above are packages custom styled for Ray-O-Vac, Johnson & Johnson, Chap Stick, 3M and Merck Fruit-Freeze. Each is impulse sales-designed to follow through on brand image promotion and literally begs to be bought at point-of-purchase. Each is engineered for mass production, is light and non-breakable, and is a pleasure to use. Clark's completely integrated metal packaging service assures the flexibility to serve a great variety of specialized needs. A Clark representative will gladly explain how this service can work for you, helping to build increased sales for your product.

**COLORFUL NEW BOOKLET GIVES BASIC FACTS
ON HOW CONTAINERS ARE DESIGNED TO SELL**

Write today for a copy of "A Businessman's Guide to Container Design," J. L. Clark Manufacturing Co., Rockford, Ill.; Liberty Division Plant and Sales, Lancaster, Pa.; New York Sales Office, Chrysler Bldg., New York 17.



Lithographed Metal Containers
J. L. CLARK

"... the real estate opera-
tion has become markedly
more aggressive . . ."

MORMONS starts on p. 108

of commerce at Brigham Young University. Subsequently he became vice-president in charge of finance and business administration for the university and for the whole educational system of the church. Now, at 51, he was to be the first full-time financial adviser to the leaders of his church.

• **Toward Better Profits**—The scope of Edwards' duties is not yet clear. On the sidelines, the assumption is that Edwards' job is to guide the church in improving the profit position of the businesses it controls. That his staff role encompasses somewhat more than his title suggests was evident in the first major public assignment the First Presidency handed him.

In August McKay announced a plan to merge the church's three banks and to operate them as units of a branch-banking system to be called Zion's First National Bank. The plan received preliminary approval this week from the U.S. Comptroller of Currency.

To conduct the merger negotiations, McKay had appointed a committee of three directors representing the church and three representing minority stockholders. Significantly, Edwards was named chairman of this committee.

The venture into branch-banking, with its potential operating economies, hints at the unfolding of a new and broader "market" for the bank's services. As a chain, it could create or acquire additional branches as other Utah banks have done, extending its range to other communities and other neighborhoods.

• **Banking Executive**—One step in the consolidation that stirred discussion was the appointment of Walter LaMar Webb as a senior vice-president. Like Edwards, Webb is a native of Utah and a Mormon. He was senior vice-president of a chain bank in Winston-Salem, N. C.

Webb is a specialist in credit—including consumer financing, an area of lending that has never held much appeal for the Mormon banks. Not only has the church preached freedom from debt for its members, it has also practiced it as an institution. Now it would appear that the banks are prepared to accept consumer debt as a reality of contemporary life.

• **Real Estate . . .**—Another McKay appointee who has added zip to Mormon business is L. Pierce Brady, manager of Zion's Securities Corp., real estate arm of the church. Holdings of Zion's Securities include many down-



There's a new science of home heat conditioningand STEWART-WARNER is there!

The enjoyment of clean, automatic, healthful home *heat conditioning* has now become a wonderful reality. And we are proud that our own STEWART-WARNER, *SAF-AIRE* and WINKLER lines of fine residential and commercial heating equipment have continued to represent the vanguard of this new development.

Combining constant research with years of experience in the production of heating systems of advanced design, Stewart-Warner is a leader in the modern technology of *heat conditioning*. This leadership is reflected in the superior performance of our newest lines of STEWART-WARNER and WINKLER gas and oil furnaces and conver-

sion burners — and our famous *SAF-AIRE* wall heaters — all of which provide unexcelled heating comfort and convenience, lowest-cost operation and trouble-free life.

These new Stewart-Warner heating systems are available in types and capacities to furnish complete heating comfort in homes of all sizes, and in motels, stores and other commercial establishments . . . no matter what the climatic conditions.

And this advanced type of *heat conditioning* when combined with STEWART-WARNER *air conditioning* — as part of one compact, low-cost system — guarantees your unsurpassed year-around comfort. It's another outstanding example of

Stewart-Warner's contributions to America's progress.

Through the intensive new product development efforts of its nine widely-diversified, highly-integrated operating divisions, Stewart-Warner continues to strengthen further its leadership in such dynamic, rapidly-growing fields as advanced electronics, instrumentation, high pressure lubrication, materials handling, heating, air conditioning and complex heat exchange technology.

Whoever you are, wherever you live, work or travel, Stewart-Warner is there — making work easier, life better, America more secure.

STEWART-WARNER CORPORATION

1834 Diversey Parkway, Chicago 14 • 351 MacDonald Avenue, Belleville, Ontario

These are the **QUALITY PRODUCTS** of STEWART-WARNER CORPORATION:

ALEMITE Industrial and Automotive Lubrication Equipment, Lubricants and Chemicals;
STEWART-WARNER Electronic Equipment and Systems, Commercial and Military;
Bassick Casters, Wheels and other Materials Handling Devices, *Ho-Ho* Office Chair Controls;
STEWART-WARNER Speedometers, Gauges and other Automotive, Industrial and Marine Instruments;
South Wind Aviation Heat Exchange Products, *INSTANT* and *MINIT* Automotive Heaters;
STEWART-WARNER, *SAF-AIRE* and *WINKLER* Heating and Air Conditioning Equipment;
Stewart Die Castings; *Hobbs* Electric Hour Meters; *Bassick-Sack* Furniture Hardware.

ALL OF THE ABOVE TRADEMARKS ARE THE PROPERTY OF STEWART-WARNER CORPORATION

Symbol
of
Excellence



**HIGH-POWERED
VISION IS "FIRST"
NATURE WITH TMI'S
TUBING ORGANIZATION**



Fate has brought us so close to the fantastic "dreaming" of research and development engineering in America's finest metalworking plants, that we find ourselves equipped with BI-FOCAL thinking! We work at problems as commonplace as improved heat controls on a household kitchen range at the same time we launch headlong into the pioneering design problems of space travel! In either case, we count on the advantages of high-powered engineering vision to solve both kinds of cold-drawing problems for we consider both of prime importance for America's industrial progress.

**TMI Stainless
Steel and
Special Alloy**



**Tubing Is Cold Drawn To The
Highest Quality Standards**

*Metalurgists, Engineers, and
Manufacturers specializing in
Small Sizes: 0.50" to 6.25"*

**TUBE
METHODS
INC.**

BRIDGEPORT (Montgomery County),
PENNSYLVANIA

"... a Mormon family down on its luck need have no recourse to public breadlines . . ."

MORMONS starts on p. 108

town stores and office buildings, 11 small hotels, a number of apartment houses, and other parcels.

Under Brady since 1952, the real estate operation has become markedly more aggressive. It recently built an eight-story Beneficial Life office building and has dedicated a 500-car parking terrace for the Temple Square Hotel. It has acquired all the land facing Temple Square on four sides. It leases land to the Hotel Utah for a 200-car underground garage, also leases the land on which the hotel is building a posh motor lodge. Recently he sequestered a site opposite Temple Square for a large new auditorium for both church and community use.

On him, more than any other Mormon, lies the responsibility for preserving the vitality of downtown Salt Lake City. Urban decay would dim the luster of the city's major tourist attraction, the downtown block that is Temple Square. More than 1-million visitors a year thread through the shaded walks of Temple Square, pause for the daily organ concerts in the domed Tabernacle, thrill at the architecture of the Temple, browse in the museum of Mormondom.

• **and Retailing**—ZCMI, which labored for years under a handicap of unimaginative merchandising, has been throwing off sparks, too. In addition to its tea room, ZCMI has acquired a modern, automated warehouse and built a 10-level parking terrace in the rear of the store that parked 455,000 cars last year.

It's doubtful that either the afternoon-and-Sunday Deseret News or its competitors, the morning-and-Sunday Tribune and evening Telegram, were operating in the black when McKay became church president in 1951. The Tribune and Telegram were jointly owned. In 1954, the managements of the rival publishing houses worked out an agreement to trim operating expenses. A third company was formed to conduct the printing, advertising, and circulation departments of both houses. The News dropped its Sunday issue and absorbed the Telegram, leaving Salt Lake City with two newspapers that compete editorially and earn profits through economies in the printing and business-office functions.

• **Self-Sufficiency**—Apart from these profit-oriented, competitive businesses, the church operates hundreds of smaller nonprofit enterprises to supply its unique welfare program. This is an outgrowth of the Mormon passion for self-sufficiency.

A Mormon family down on its luck need have no recourse to public breadlines. In fact, the church discourages its members from accepting public charity, even state old-age pensions. A needy Mormon can get what he needs to sustain life and self-respect from the church—in exchange for his labor if he is able, free if he is not.

For this purpose, the church operates numerous farms from New Jersey to Oregon, cattle ranches in Wyoming and Arizona, a coal mine in Utah, clothing and furniture factories in California, a peanut project in Texas, 32 food canneries in the U.S. and Canada, grain elevators, pineapple and sugar plantations in Hawaii, with aggregate fixed assets of \$20-million.

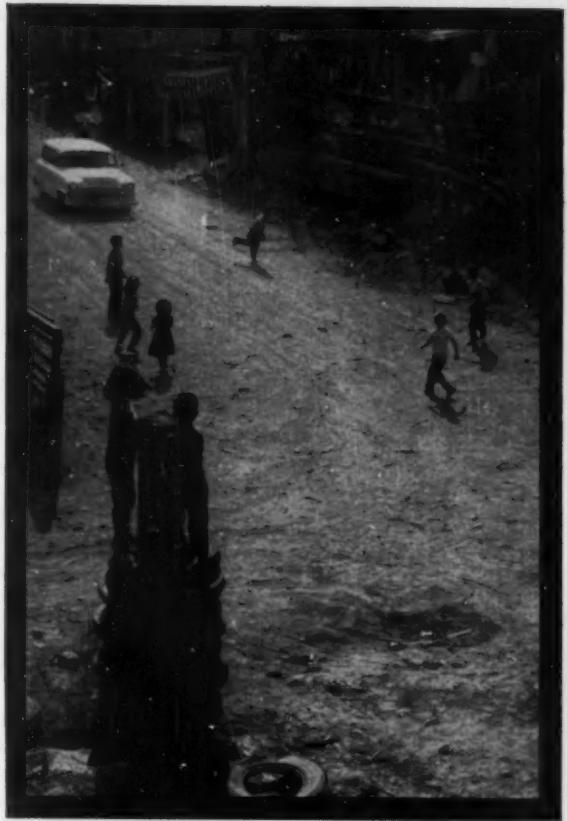
• **Spiritual Shepherds**—Members of the Council of the Twelve Apostles, like the triumvirate in the First Presidency, have important spiritual duties. It is only a matter of expediency that they serve also as directors or administrative executives of the church's business properties. Those with private income receive no pay from the church. If they have no private resources, the church pays them—as it pays McKay—a living allowance of something less than \$10,000 a year.

Each member of the council has his own apostolate—missionary work, the Priesthood, welfare, education. And, as "special witnesses" for the First Presidency, they maintain close liaison with the wards (equivalent to parishes) and stakes (roughly equivalent to dioceses). This involves an extraordinary amount of travel.

• **Distinguished Group**—Religious zeal is the common characteristic of all the Apostles. Yet each brought into the inner councils a distinguished background in business, the arts, or professional practice.

Joseph Fielding Smith, president of the council, is a Mormon historian of note. Dr. Adam S. Bennion was vice-president of Utah Power & Light Co. Henry D. Moyle was a director of Phillips Petroleum Co. after it absorbed his Wasatch Oil Co.

Secy. of Agriculture Ezra Taft Benson, perhaps most widely known of the Apostles, was executive secretary of the National Council of Farmer Cooperatives. Mark E. Petersen was reporter, editor, and finally general manager of the Deseret News. Richard L. Evans, youngest of the Quorum, was a radio commentator, enunciator of the "spoken word" on the Sunday broadcasts from the Mormon Tabernacle in Salt Lake City. **END**



"GET-OUT-IF-YOU-CAN!"

It was only an ordinary street light, but the enchanted people of the dark slum gazed upon it with joy and wonderment, for they had put it there . . .

But that was later. The town and its people had been there a long time.

A town really is its people.

The people had rolling, rhythmic names . . . like Juan, Diego, Fernando. Some of their ancestors, illustriously stealing a march on the Pilgrims, had found Mexico and founded California. And their poetic names bedeck landmarks throughout the State.

But the town was a rathole. It wasn't really a town, only an isolated ghetto section on the east side of a central California city, rat-ridden, disease-prone, captured by dirt and poverty. Its residents—the modern inheritors of the rhythmic names—had a sardonic name for their community. They called it *Sal-Si-Puedes!* Which means "Get-Out-If-You-Can!"

In the lovelier sections of the city, some had an explanation for this. They were apt to sigh and regret that Mexican-Americans "just didn't care how they lived." As one leading citizen said: "Give those people a thousand dollars and they would still live like that."

But Fred Ross was convinced that nobody could actually enjoy living in a slum. The tall, scholarly director of the California Federation for Civic Unity couldn't give anyone a thousand dollars—not on his modest subsidy from the American Friends Service Committee. Nevertheless, like a good neighbor, he came calling on the folks in Get-Out-If-You-Can! And he brought something much more important than money—an active faith in the American tradition.

His was not a quick or easy way. Alone at first, fighting against fear, distrust, apathy, Fred Ross trudged along the painful rows of shabby houses and lean-tos, talking, talking, talking . . .

"Take a look. Rats running through your yards and homes. Unpaved roads. Dangerously poor sewage disposal. A garbage situation that's unbelievable. Why?"

A young lumber worker at last provided an opening for the answer Ross was bursting to give. "Once," the lumber worker recalled, "I took a bunch of petitions down to the Courthouse for paved streets, street lights, gas, storm drains, all that stuff. They didn't take it seriously."

Ross pounced. "I also went to the Courthouse. I counted the Spanish names on the voters' registration list. Sixteen hundred of a possible 21,000. Do you know that in America the government governs only with the consent—and desires—of the governed? Suppose we all got busy and registered three or four times that many to vote? Suppose—?"

It didn't happen all at once. But soon Ross found himself the catalyst that activated a Catholic priest, a Mexican-American nurse, two laborers and others. There was a memorable mass meeting, resulting in formation of the non-profit, non-partisan Community Service Organization. Its goal—to get out the vote, develop a civic identity and purpose, to form a community in the American tradition.

Sociologists had politely complicated names for the problems of *Sal-Si-Puedes*—depressed income, cultural lags, lingual barriers, inter-cultural tensions, social apathy, inter-group hostility and lots more.

The self-help pioneers of the CSO in *Sal-Si-Puedes* pitched in with a small vocabulary and a whale of a lot of enthusiasm. In ten weeks, working evenings, spending 3,000 man-hours, wondering, hoping, they registered 4,000 voters to put little, lost *Sal-Si-Puedes* on the political map at City Hall and the Courthouse.

The magic of getting results didn't happen all at once. But it started even during the door-to-door voters registration drive. Ditchdiggers ended perennial flood hazards by repairing Silver Creek, and factory refuse dumping in the creek was forbidden. Paving crews made miles of muddy roads passable. Playgrounds sprouted on shabby sand lots. Traffic control signs appeared. Newspapers began to report happenings in *Sal-Si-Puedes*; and its leaders were invited to join the PTA, to speak before clubs across the tracks.

Then one day, providing assurance for the women who had to be out after dark, cutting the mortality rate for children crossing the street, pushing back the grim shadows of a century, the first street light came.

And the enchanted people of the dark slum gazed upon it with joy and wonderment, for they had put it there.

Fred Ross and the people who considered it important for him to bring his "civic betterment" philosophy to the people of Get-Out-If-You-Can! exemplify the countless instances in which Americans carry on the principled action-program of Jefferson, Madison and Lincoln in twentieth century America.

The American Traditions Project of the Fund for the Republic has compiled hundreds of true stories of contemporary Americans whose actions have advanced freedom and justice. Some of these stories have been published in an illustrated booklet, "The American Tradition in 1957." Free copies are available. Write to the American Traditions Project, Box BD, Los Angeles 48, California.

In Washington

All Five Gulf States Get Bid To New Offshore Oil Battle

The U.S. Supreme Court this week ordered five Gulf Coast states to answer in 45 days the Justice Dept.'s request for a court ruling that no state has legal title to offshore lands beyond a three-mile limit.

Thus, the battle over state vs. federal proprietorship of Tidelands oil beyond the three-mile limit—at least in the oil-rich Gulf of Mexico—is again in the hands of the Supreme Court.

Two weeks ago, the Justice Dept. asked the court to bring all Gulf States—Alabama, Florida, Mississippi, and Texas—into its suit against Louisiana over that state's claim to ownership out to three leagues (10.5 miles).

In 1950, the Supreme Court ruled the federal government had paramount rights over submerged lands beyond the low water mark. Pres. Eisenhower campaigned in 1952 in support of state claims extending beyond this line—Texas claiming rights out to 10.5 miles. In 1953, the President signed the Submerged Lands Act, giving states title to offshore land up to their "historic boundaries."

Now the Supreme Court will have to decide whether "historic boundaries" go beyond the traditional international three-mile limit.

Civil Servants Replacing WOCs As Head of BDSA Industry Divisions

Career civil servants now head 12 of the 17 industry divisions in the Commerce Dept.'s Business & Defense Services Administration. And in the other five divisions, civil servants will move into the top posts at the expiration of the appointments of the businessmen who now hold the jobs on a WOC (without compensation) basis.

The move implements a BDSA decision last summer to replace the WOCs heading all the divisions.

In each case, the civil servant has been promoted from the No. 2 post in the division. WOCs will continue to serve as advisers to the new division heads.

Supreme Court Kills von Opel's Hope Of Recovering Share in Seized Assets

The Supreme Court this week killed the last chance of Fritz von Opel—son of the one-time German auto magnate—to recover his share of \$6-million in assets seized by the U.S. government as enemy alien property in World War II.

The court refused to review a lower court ruling last

MORE NEWS ABOUT GOVERNMENT ON:

• P. 120 What Defense Secy. McElroy Has Done in Seven Weeks on the Job.

June that von Opel does not qualify as an "innocent stockholder" in the Swiss holding company that once owned the assets.

The action removes the last major obstacle to the sale by the government of the assets, which consist mainly of a 55% interest in the Spur Distributing Co., a chain of gasoline stations mostly in the Southeast.

Kansas City Star Bows to Pressure, Puts Radio, TV Stations on Block

Television and radio stations in Kansas City, Mo., owned by the Kansas City Star Co., are up for sale this week as a four-year-old battle with government antitrusts comes to an end.

The company—publisher of the Kansas City Star and the Kansas City Times—was a pioneer in both radio and TV broadcasting in the area. But it signed a consent decree with the Justice Dept. late last week, agreeing to sell radio station WDAF and TV station WDAF-TV and to get out of the broadcasting business.

Last summer, the U.S. Supreme Court refused to review the company's conviction on criminal charges of selling its morning, evening, and Sunday editions to subscribers—and space in them to advertisers—on a package deal. The company was also found guilty of illegally tying sale of advertising space in its papers to the use of advertising time on its broadcasting facilities.

Among other things, the settlement permits subscribers to buy any two of the three papers, permits advertisers to buy space separately in any edition, and bars tie-in sales of advertising.

Under the decree, the radio and TV stations must be sold "within a reasonable time," and sales are subject to approval by the Federal Communications Commission.

Rails Go Back to ICC for More As Airlines Bolster Fare Plea

The nation's railroads are expected to go before the Interstate Commerce Commission again next week to ask for increased freight rates. But this time, on ICC's suggestion, the rails will ask increases on a selected commodity basis rather than across the board.

This makes it hard to figure total cost to shippers, but the increase would probably come to several hundred million dollars a year.

ICC in August gave freight increases totaling almost \$900-million annually.

At the same time, 12 airlines have started arguments before the Civil Aeronautics Board for 12% to 20% passenger fare increases. American Airlines, first to testify, said it would have to delay indefinitely converting to jet operations unless it gets a 15% boost.

Engineered by Tinnerman...



6-fingered **SPEED CLIP®** holds glass panels tight, saves 46%!

This special SPEED CLIP fastens glass panels to aluminum extrusions with a grip that prevents slippage. Heat stays in, rain stays out of greenhouses and similar glass structures. Working closely with engineers of the Metropolitan Greenhouse Mfg. Corp., Brooklyn, Tinnerman developed this unique fastener that saves almost one-half the cost of former less effective assembly methods!

Installation is fast and simple. Two overlapping glass panels are positioned against the extrusion. A screw driven into the spring-steel SPEED CLIP spreads the two center fingers outward to grip the inner walls of the extrusion. No secondary fastening devices required—SPEED CLIPS hold tight, yet are easily removed to permit replacement of glass.

This is another example of a fastener engineered by Tinnerman to satisfy special, complicated fastening problems. A Fastening Analysis of your

products may produce a similar cost-cutting solution. See your Tinnerman representative soon.

TINNERMAN PRODUCTS, INC.
BOX 6688 • DEPT. 12 • CLEVELAND 1, OHIO

TINNERMAN

Speed Nuts®



FASTEAST THING IN FASTENINGS®



ON THE SEA: Defense Secy. McElroy pays his first visit to a submarine, later makes overnight cruise on nuclear-powered Seawolf.

Pentagon Feels the Impact of Its

Defense Secy. Neil H. McElroy, only seven weeks on the job, has already impressed Washington with his knack for picking up knowhow in a hurry and translating it into action.

During Senate hearings on his nomination to be Secretary of Defense, Neil H. McElroy (cover, pictures) was warned by North Carolina's Sen. Sam Ervin that in taking over the Pentagon he would soon be like Jehovah, a character in the play *Green Pastures*, who felt that "being Jehovah ain't no bed of roses."

After almost seven weeks as top

man in the Defense Dept., McElroy is getting the senator's point. Succeeding Charles E. Wilson in the job, the former Procter & Gamble president has taken charge at one of the most critical times since the start of the cold war.

For the first time, many defense experts believe, the balance of military power is shifting to Russia's favor.

Russian missiles and earth satellite exploits have shown the U.S. to be lagging in the race to develop long-range ballistic missiles. With operational IRBMs and ICBMs almost in tow, Russia is on the verge of breaking the nuclear stalemate now symbolized by opposing forces of U.S. and Soviet-manned bombers.

• **Reappraisal**—In the seven weeks since the launching of Russia's Sputnik I, the Administration has moved from a pooh-pooh policy to a new policy that, by Pres. Eisenhower's own words, is "critical reappraisal."

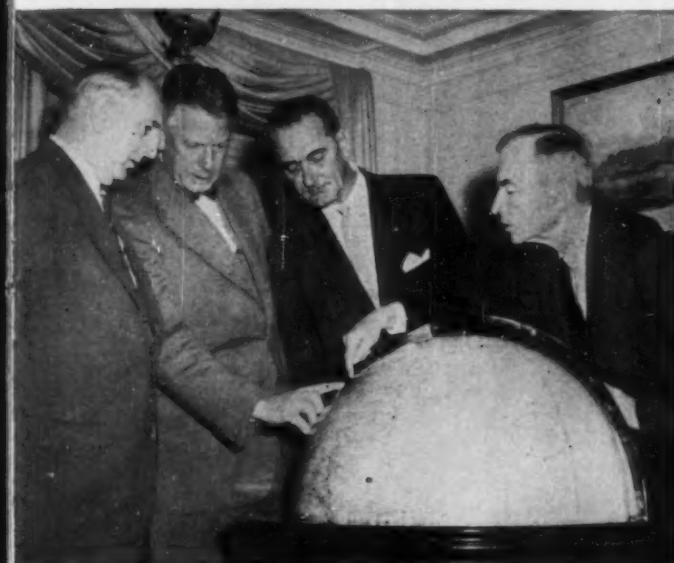
Even while the reappraisal is in



ON THE LAND: McElroy confers with Pres. Eisenhower on the problems of coordinating the nation's three armed services.



IN THE AIR: McElroy gets a briefing from pilots on USAF B-58 Hustler bomber at Convair plant in Fort Worth, Texas.



GLOBAL: McElroy, Sens. Richard Russell, Lyndon Johnson, and Deputy Defense Secy. Donald Quarles study Red rocket threat.



DOMESTIC: McElroy, Vice-Pres. Nixon, and Business & Defense Service's Horace McCoy discuss national defense.

New Broom

process, Eisenhower has established an atmosphere amenable to heavier spending, for more searching scientific inquiry, better pay for line soldiers and skilled military technicians—in short, eschewing the worship of a balanced budget.

• **Turnabout**—This national turnaround has its differences from the other radical shifts the present generation of Americans has had to live through. Franklin D. Roosevelt turned around the U.S. in 1940-41 by ordering mobilization of national muscle and brawn. Harry S. Truman reacted to the Korean crisis by calling for a mobilization base

far beyond absolute material needs of the fighting.

Not in dollars, not in brawn, can you measure Eisenhower's present course. Neither give fair measurement. It is a more subtle, more sophisticated switch. Our military structures and the force that lies behind them are, it is now clear, in the first stages of a revamping to conform with the needs of a war that, if it comes, will be different from any ever fought.

All the decisions won't come quickly. It will take years, obviously, before the old patterns disappear. But with Soviet earth satellites overhead, it becomes clear that big changes have to come.

• **Tension**—There is an underlying uneasy feeling that the U.S. has become

an inferior as compared to Russia.

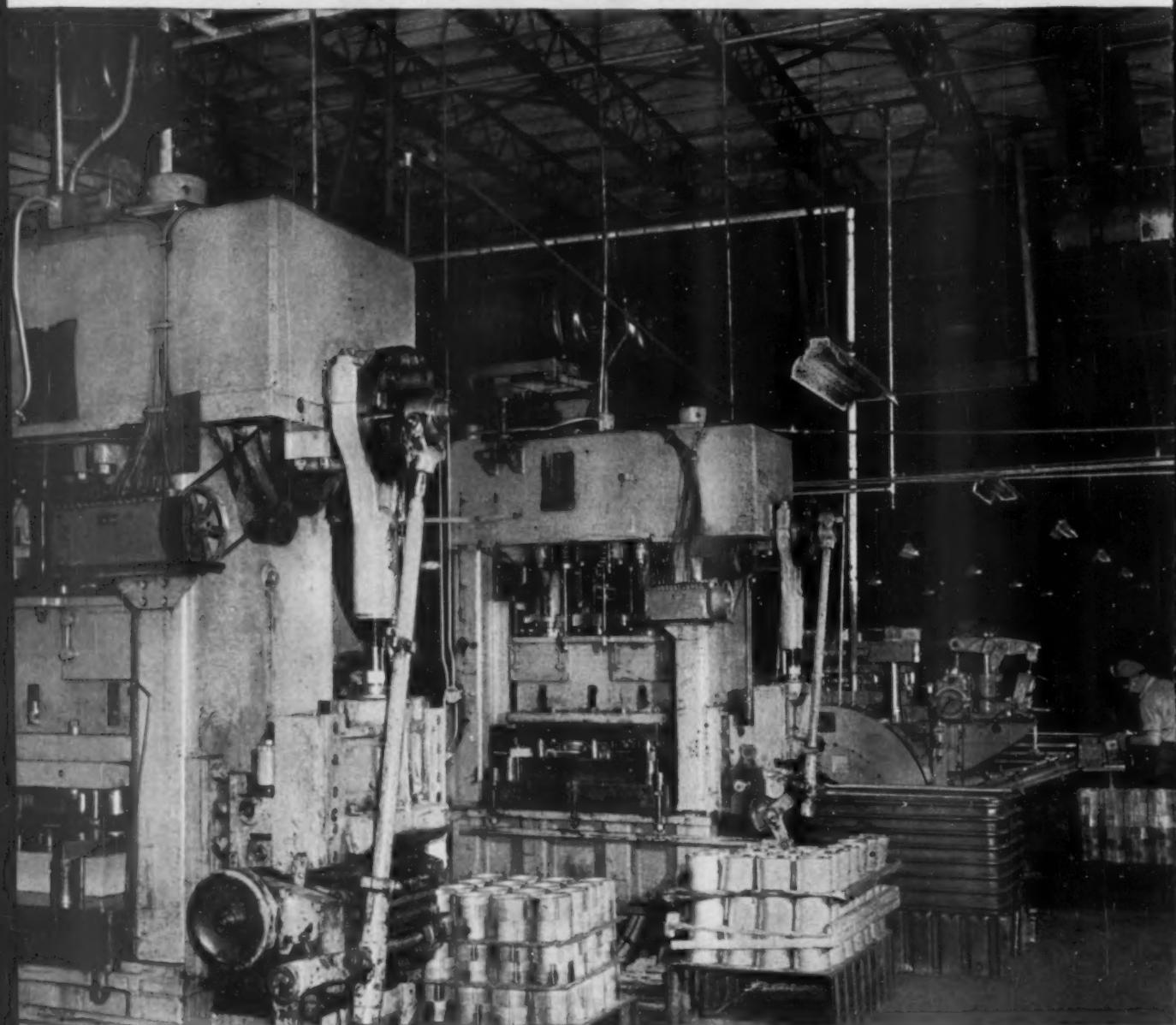
This feeling hangs over both the Administration and its Democratic critics in Congress. Immediately, you'll see the signs as:

- The Administration puts together next year's military budget under the urgent new course set by Eisenhower in last week's Oklahoma City speech on national security (page 46).

- The Senate Armed Services Preparedness Subcommittee, under Senate Majority Leader Lyndon B. Johnson, started its investigation of the missile program to find out "what is wrong, why the Russians are ahead."

- **New Urgency**—Even before Russia launched the first Sputnik, a searching appraisal of Washington's military plans—in the light of the latest tech-

...Your best motor investment is Century



For Industry — Century Builds Better Motors

Making better electric motors is largely a matter of attitude of the manufacturer. At Century, that attitude is—a determination to make more dependable, more durable motors that will keep our customers out of trouble.

It's the little *extra* . . . in quality of materials . . . in sturdiness of construction . . . in quality control through inspection . . . that prevents costly down-time. Of course, the design must be right—to give you the power you need in a properly protected frame, and with smooth, quiet operation.

Century has acceptance throughout industry because of

better industrial motors . . . properly applied. Let your local Century man or Authorized Century Distributor show you exactly why your best motor investment is Century.

Century
MOTORS

CENTURY ELECTRIC COMPANY

St. Louis 3, Missouri • Offices and Stock Points in Principal Cities

nology, current world politics, and the domestic economy—was under way. Russia's rocket achievements—and the political furor, the public uneasiness generated by them—has given it a greater sense of urgency.

As of now, the Administration has not cut completely the firm ties between defense planning and fiscal policy. It is still determined to keep defense expenditures to a "reasonably stable level of expenditures," to avoid the alternatives of higher taxes or deficit spending.

So, as the emphasis on missiles and other more costly weapons goes on, the added costs will continue to be offset at least in part by cuts in more conventional armament—and also, now, by a squeeze on the civilian chunk of the federal budget.

I. Problems of Defense

The Administration's tight control on military spending over the past few years has spawned, or at least accented, a chain of controversial questions—aside from the fundamental Russian missile issue—which McElroy inherits from Wilson. These touch on:

Strategy: Does the stress on "massive retaliation," with greater dependence on nuclear airpower and reductions in conventional forces, limit U.S. strategy and make it too inflexible to meet the threat of local or limited war?

Weapons: Should further development and production of manned planes be scrapped in favor of an accelerated missile program; or, if not, at what rate should piloted aircraft procurement be phased out and replaced by new missiles?

Organization: How to halt the inter-service rivalries that waste defense funds and slow down development of new weapons?

Manpower: How to recruit and keep civilian scientists and engineers, top-caliber military professionals, and skilled enlisted technicians—in short, brain power—for the military establishment? Should the draft of young men for military service be continued at a time when sheer masses of foot soldiers no longer figure decisively in warfare?

Industry: How to ease the impact of the trend toward production of fewer types and fewer quantities of new weapons on established defense producers?

• **At Issue**—The questions will get no short-range answers. At issue is the matter of professional standing—whether the future holds professional supremacy, survival, or technological unemployment for the military careerist.

In debating the questions, the military men come in with vested interests. The infantry general is fighting to stave off conversion to police duty.



EXCHANGE: McElroy trades quips with Sens. John Bricker and Leverett Saltonstall.

The naval admiral, already shifted from battleships to airplanes, does not want to get lost in the shuffle. The pilot does not want to give way to a missile technician pushing buttons.

Slowly but surely, however, the questions will be resolved. As the U.S. fighting machine undergoes continual change in the nuclear-missile age, the technician will inevitably emerge triumphant. He may be delayed because of political pressures from the foot soldier, sailor, and the airmen.

McElroy, the former \$285,000-a-year, self-styled "soap peddler," is now the central figure in these issues. A businessman whose military experience boils down to three years in an Ohio National Guard cavalry unit some 30 years ago, he came to Washington with an immense reputation as a vigorous and imaginative administrator.

II. McElroy's Pentagon

As a \$25,000-a-year Secretary of Defense, McElroy is in charge of an establishment with assets of \$140.3-billion, 1,154,197 civilian employees, 2,788,515 military personnel, and a work force of 263,391 hired through civilian contractors. Its annual expenditures, now running between \$38-billion and \$39-billion yearly, take up well over half the federal budget and close to 10% of the gross national product.

In the 10 years since the Defense Dept.'s organization as a single executive agency, the nature of warfare and the make-up of the U.S. fighting machine has changed radically.

But the Defense Dept.'s administrative machinery remains essentially the same. The Army, Navy, and Air Force are still separate departments, feuding with increasing vigor over changing roles and missions and for control of the new weapons.

• **Battle of the Pentagon**—Few will deny that the squabbling has wasted defense money and delayed develop-

ment of new arms. Wilson tried to set policy and coordinate the services' activities in procurement, research, production, and the like. But many officials contend he only aggravated the situation, confused the lines of authority, and seriously slowed down the process of decision-making.

• **"Debating Society"**—In the swiftly changing world of military strategy, the role of the Joint Chiefs of Staff as principal military advisers to the President, the National Security Council, and the Defense Secretary has become more vital.

But the Joint Chiefs have become what one Pentagon insider calls "a debating society," presided over by a chairman. The Joint Chiefs as commanders of the individual services inevitably represent the thinking of their own branches. The military advice they come up with, according to a popular joke in Pentagon corridors, is "L.C.D.—the lowest common denominator."

The point is this: In trying to agree, the Chiefs keep backing off from their original positions, really fail to resolve the big issues—over strategy, logistic plans, materiel needs, and the like.

The criticism, however, is not one-sided. The military professionals complain that the Joint Chiefs "get no guidance" from the Security Council, that "people without military responsibilities have been making the important decisions."

Amid all the pulling and hauling over military organization, proposals have been made to overhaul the present setup and replace the individual services with strategic, tactical, and defensive commands—to fight the wars.

So far, there's no sign that the Administration is moving to merge the services or make other basic organizational changes. Air Force Gen. Nathan F. Twining, JCS chairman, supports the concept of a single service, but thinks it is at least 15 years away, when the missile will have matured.

III. McElroy Takes Charge

McElroy took office Oct. 9, four days after Sputnik I. But his transformation from businessman to Defense Secretary began almost two months earlier, as soon as the President announced his nomination (BW—Aug. 17'57, p.30).

In the interim, he had closed out his P&G affairs, spent two weeks touring major aircraft and missile centers, and absorbed countless briefings on a broad range of military matters—ranging from Defense Dept. organization and budget mechanics to the latest on defense expenditures and missile development.

Less than four hours after his White

House swearing-in, he was holding a press conference in his new Pentagon office and he quickly impressed Washington with his savvy and obvious knack for picking up knowhow in a hurry.

After Wilson, who was noted at the Pentagon neither for his punctuality nor his speed in making decisions, McElroy has given long-time Defense Dept. officials a jolt.

• **Progress**—In his brief Pentagon career to date, McElroy has:

- Revoked Wilson's order slashing military research spending by at least \$170-million, thus restored this year's original basic research plans. Even more significantly, he has given military scientists a spiritual boost with his verbal bouquets about the need for fundamental research.

- Obtained Administration relief from the Defense Dept.'s \$38-billion expenditure ceiling for fiscal 1958—\$400-million for July-December and at least another \$200-million in the works for January-June. This action has taken some of the heat off a few major aircraft and missile projects for which new cutbacks or stretchouts had been in the offing.

- Given the Army a green light to launch an earth satellite with its famed Jupiter C rocket test vehicle. Army missile men had been bitter over the decision keeping the satellite project exclusively in Navy hands, have been trying to get into the act with what they claim is a superior launching rocket (BW—Oct. 6 '56, p31).

- Revamped the process of issuing Defense Dept. general policy directives. In the past, Assistant Defense Secretaries often put policy directives in Wilson's name before the three service secretaries could comment in detail on the measures. McElroy has ordered the policy directives to be taken up first at his regular weekly conference with the service secretaries.

McElroy, of course, does not get full credit for all the changes. Some of the decisions were Sputnik-inspired and needed White House blessing.

Besides, as a freshman bureaucrat, the new Defense Secretary leans heavily on the veteran Pentagon team inherited from Wilson—notably, Deputy Defense Secy. Donald A. Quarles and Asst. Defense Secy. W. J. McNeil, the Pentagon's comptroller. Both men, incidentally, figured prominently—along with McElroy himself—in the prolonged speculation over a Wilson successor.

IV. The Defense Budget

McElroy took office at the height of preparations for the new military budget—the “annual agony,” McNeil calls it. McElroy was being briefed in general right from the start, but it wasn't until



NEWS CONFERENCE: McElroy tells reporters of new developments by the Navy.

Nov. 5 that he had what one budget official calls “direct contact” with the new budget.

At that time, the so-called “problem areas”—that is, controversial budget items requiring top-level policy decisions—started to be put on his desk. These had been cropping up all during the detailed review of individual service budget proposals by McNeil's shop.

Ironing out the budget's broad outlines, the Defense Dept. budget officials had pulled out the controversial policy issues, summed up the opposing arguments, and put them aside for solution by the Secretary.

McElroy has decided some of them, has bucked up others to the President and the National Security Council. Still to be decided:

How to push up operational target dates for the strategic ballistic missiles; the future of B-52 heavy bomber production; the need for another generation of manned bombers—chemical and nuclear-powered—beyond present flight-tested models; clarification of Army and Air Force missions for control of tactical planes and missiles over the battlefield.

- **Final Say**—On each of the issues, the Joint Chiefs of Staff have made their recommendations. But the President, with McElroy at his side, is making the big decisions—taking into account fundamental Administration thinking on foreign, security, and fiscal affairs.

The decisions, and their implications on next year's appropriation requests and expenditure estimates, will be cranked in as the nuts and bolts of the defense budget in the weeks before it goes to Congress.

In making such decisions, Washington officials have a habit of talking about the “calculated risks” in, say, curbing output on one type of plane in anticipation of a successor's develop-

ment. Since McElroy's appearance, Pentagon punsters now talk of such decisions as “Procter's gambles.”

V. Education and P&G

It could be said that McElroy's path to the Pentagon traces back to the fact that his parents were both school teachers in Madisonville, a Cincinnati suburb, where he was raised. For McElroy has always had a deep concern about education—an interest that first brought him to the serious attention of the Eisenhower Administration.

When the Administration began planning a White House conference on education in 1955, it turned to McElroy, an advisory board member of the highly regarded National Citizens Council for Better Schools, to be the chairman. McElroy impressed the President and other Administration leaders with his smooth and vigorous handling of the meeting.

- **On File**—The President salted away the name of McElroy as a candidate for a future high-level Administration job. McElroy was also in good standing as an active Republican Party fund raiser in Ohio and as an intimate of former Treasury Secy. George M. Humphrey.

According to Washington insiders, McElroy was soon offered the post of Deputy Secretary of Defense, but declined. His name then began to crop up whenever there was talk of Defense Secy. Wilson's expected resignation.

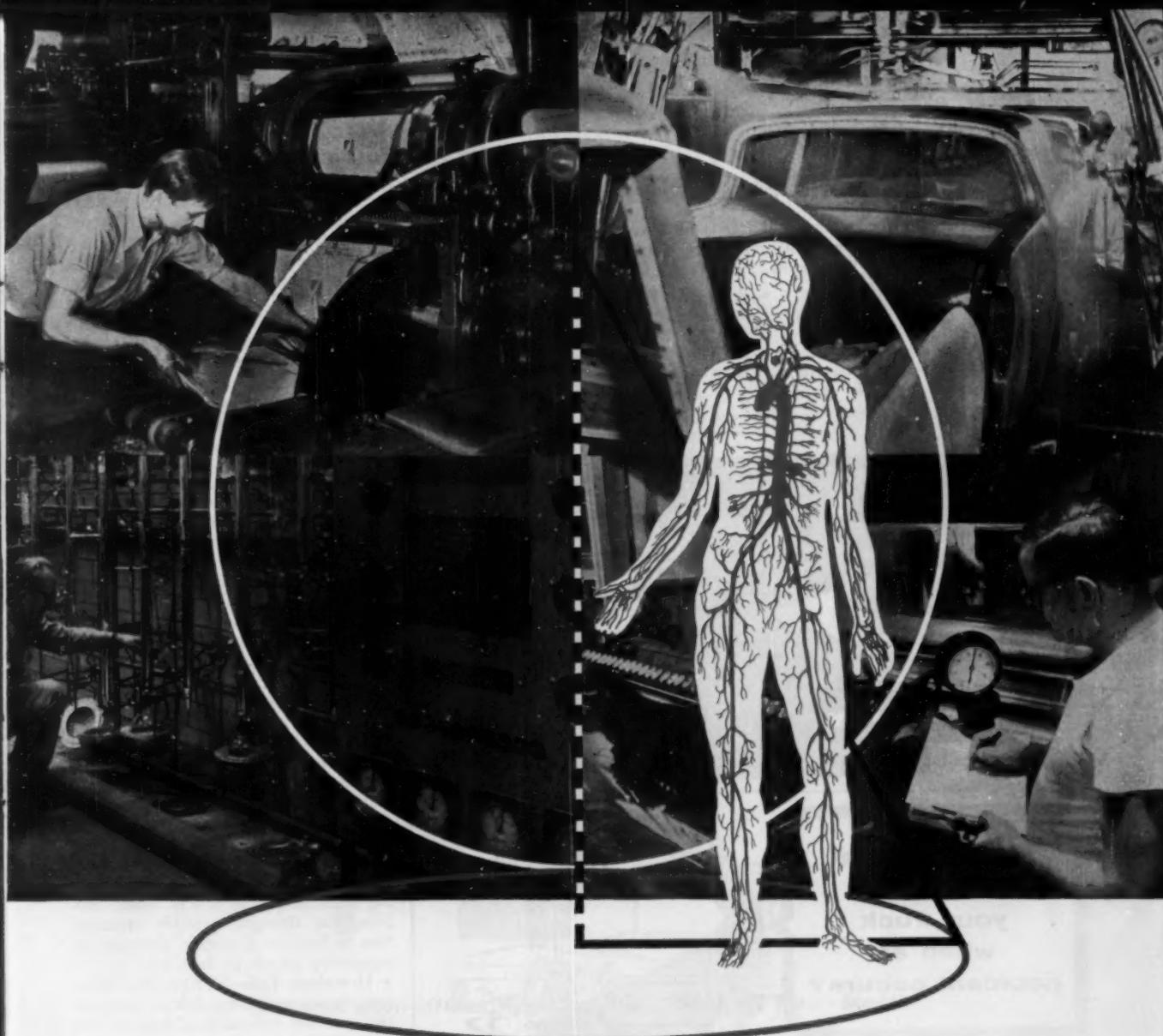
In finally taking on Wilson's post, McElroy resigned as P&G's president, holding on to about \$583,000 worth of stock and stressing that he was taking a leave of absence from the company. It's assumed that he'll return to P&G unless he develops too virulent a case of Potomac fever.

McElroy also sold about \$55,000 worth of General Electric Co. and Chrysler Corp. securities and quit the boards of directors of the two companies, because both were important defense contractors.

P&G's public relations manager, Oliver M. Gale, Jr., McElroy's close associate for 28 years with the company, accompanied him to Washington to become the Secretary's special assistant. Aside from Gale's appointment, McElroy has made no changes in Pentagon personnel up to now.

- **From Soap to Guns**—McElroy, 53 years old, started with P&G in 1925 as a \$100-a-month advertising department mail clerk with a Harvard degree in economics. Until his Pentagon appointment, he had never worked anywhere else.

In nine years as P&G president, McElroy boosted sales from \$309-million to \$1.2-billion, earned the company the reputation for being what



SOLVENTS ... industry's life-giving fluids

When organic coatings and printing inks have places to go, like on automobile bodies and printing presses, it's the job of their oxygenated solvents to take them there and apply their films. Then, these remarkable vehicles evaporate at the precise rate required for the particular end use.

Celanese, a leading supplier of these industrial solvents, is conducting a continuing study into the problems of industry so that solvents of even greater usefulness and economy can be developed. This program has already produced an important family of specialized solvents for the paint and coatings industry. Manufacturers can now replace costlier fluids with

lower cost solvents that offer greater dissolving power, better flow, superior blush resistance, improved all-around performance. Special attention is even paid to the correct flash point.

Researching into the problems of industry ... applying the findings to practical solutions to improve manufacturing efficiency ... this is another example of Celanese research and product development teams working hand-in-hand to supply industry with basic and intermediate materials that meet specific requirements. Celanese Corporation of America, Dept. 568-K, Chemical Division, 180 Madison Ave., N. Y. 16. Celanese® Export Sales: Amcel Co., Inc., and Pen Amcel Co., Inc., 180 Madison Avenue, New York 16

Basic reasons

Acids	Functional Fluids	Polyols
Alcohols	Gasoline Additives	Plasticizers
Aldehydes	Glycols	Salts
Anhydrides	Ketones	Solvents
Esters	Oxides	Vinyl Monomers

..... for improved products

Agricultural	Paper
Automotive	Pharmaceutical
Aviation	Plastics
Building	Surface Coatings
Electrical	Textiles

Celanese
CHEMICALS

The

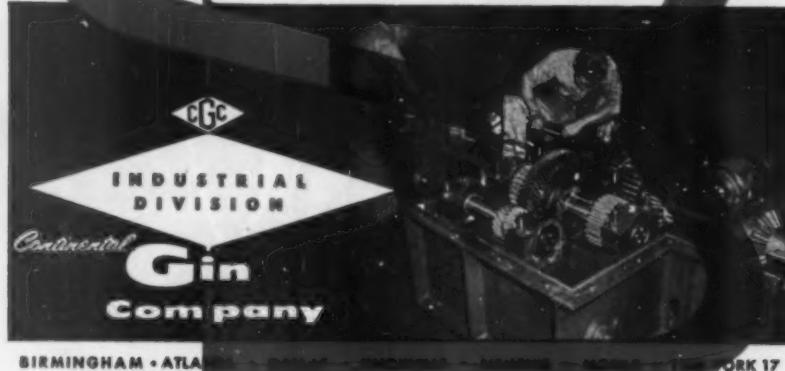
Gin Company

helps build Steel Mills, too!

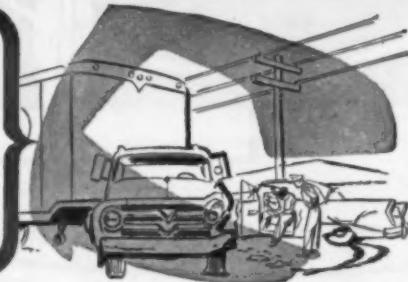
A good example of Continental's versatility and capacity is this 45-roll steel mill built recently for United Engineering, for shipment abroad.

If your plant is at the point where expansion is indicated . . . if you want to produce more with current working capital . . . if you want to cut costs without cutting production—now's the time to see how Continental's facilities and know-how will fit into your operations.

Continental would like to serve you, and welcomes your inquiries. Phone, wire or write—



like to have a witness on your truck when an accident occurs?



TACHOGRAPH charts have been used as legal evidence for protection of driver & owner

When you equip your trucks with Wagner-Sangamo TACHOGRAPHs, you have a supervisor in every cab...a witness for every movement of the vehicle.

TACHOGRAPH charts provide graphic proof of the vehicle's movements . . . factual information that can be helpful to your legal department in eliminating costly court cases and in settling accident claims.

The TACHOGRAPH chart records: when truck started—speed and distance traveled—duration of stops—and idling time. They encourage safer, more efficient driving practices that lower your truck operating costs.

For the complete story on the Wagner-Sangamo TACHOGRAPH, and how it can help your trucking operation, mail the coupon below.



Wagner Electric Corporation

6460 PLYMOUTH AVE. • ST. LOUIS 14, MO.

Please send a copy of Bulletin SU-3

Name _____
Company _____
Address _____
City _____ State _____
We operate _____ Vehicles _____



537-13

one industry expert calls the "best marketer and toughest merchandiser in the U.S." He left P&G in the best fiscal shape ever in its 120-year history.

• **Line of Operation**—Ever since McElroy's appointment to the defense job, many military men have looked to P&G operations for parallels to the Defense Dept., trying to fathom what the new Secretary might do at the Pentagon.

As a clue to his thinking about merging the military services and rival missile project, McElroy says this:

"I believe in competition. In my experience, the desire to do a better job than the other fellow often provides a hearty stimulus toward greater achievement. However, if rivalry gets to the point where it threatens to jeopardize defense teamwork, produce wasteful duplication of effort, and undermine the public's confidence in their military organization, it cannot be countenanced. I do not take the negative view that effective teamwork is unattainable within the framework of the present Dept. of Defense structure."

Under McElroy's administration, P&G had a penchant for corporate secrecy. In his transition from businessman to bureaucrat, he is encountering the same discomfort that has plagued many of his predecessors: the phenomenon of operating in a goldfish bowl. He is accountable to Congress, to other federal agencies, to the press, and is continually in the public eye.

But despite the "differences between administrative problems in industry and government," says McElroy, the job is fundamentally the same "working with people in a way which will bring the strongest possible organization to bear on a specific objective—of organizing people to do a job."

• **Herculean Task**—McElroy has taken over management of a defense program that's at the crossroads—a defense that many U.S. experts warn is already or about to become second-best. In the military business, the second-best does not long survive.

For McElroy, the task is to select the road that leads to clear superiority over a potential enemy. But he hasn't bought the theory that adding billions for defense will necessarily speed the way.

In this sense, his thinking is akin to his predecessor's. Says McElroy: "The most important problem is to marshal the resources of the nation to provide a military strength which will discourage any other nation from attacking us, will be capable of defending us effectively against attack, and will support the foreign policy of our country. Nothing can be permitted to keep us from this objective. "At the same time our defense expenditures must be efficiently administered in order that a sound supporting economy can be maintained." END

What's all
the excitement
in the
front office?



A demonstration of the amazing new Merchant Deci-Magic

... the calculator that ends decimal-point errors

The figure boys in this firm have every right to be excited about this new calculator that banishes decimal-point doubt, that ends decimal-point errors... forever.

The Merchant Deci-Magic is the world's first and only calculator to automatically set decimals in the keyboard and all dials. Touching one key one time guarantees correct decimals throughout a problem *and in the answer*.

This positive protection, plus many other exclusive advanced features, makes Deci-Magic the most accurate, the easiest calculator to use ever built. No wonder this firm's calculator users asked to see it perform on their own figurework... no wonder they're excited!

SEE WHAT DECI-MAGIC CAN DO FOR YOU—MAIL THIS COUPON TODAY



NEW
AUTOMATIC
MARCHANT
DECI-MAGIC

**MARCHANT
CALCULATORS, Inc.**
OAKLAND 6, CALIFORNIA

Modern Management Counts on Merchant

MARCHANT CALCULATORS, INC. • OAKLAND 6, CALIFORNIA

You may have the Merchant Man arrange to demonstrate a Deci-Magic calculator on our own figurework. Absolutely no obligation on our part.

Please send me free descriptive literature on Merchant calculators.

B-11

NAME _____

PLEASE ATTACH COUPON TO YOUR COMPANY LETTERHEAD

Tata Bucks the Trend Of India's Economy



FOUNDER of Tata industrial empire was Jamsetjee Tata, who expanded his holdings despite the British commercial domination.



CHAIRMAN of the Tata enterprises today is J. R. D. Tata, who believes in mixing social-mindedness with free enterprise.

Industrial combine sees enlightened capitalism as surest way for India to achieve industrialization and social goals.

Jamsetjee Nusserwanjee Tata (upper left), the bearded Parsi patriarch who founded India's largest industrial complex in 1868, was a man of limitless horizons. He wanted Indian capitalism to develop a pattern of industry much like that of the West, wasn't content with traditional Indian money lending and shopkeeping.

Today the business that Tata started with a 20,000-rupee capitalization (about \$4,500) is an industrial group stretching across the subcontinent, into every facet of the Indian economy (map, page 131). Presiding over this empire is another Tata family member—Westernized, sophisticated, and energetic Jehangir Rattan Dadabhai (J.R.D.) Tata (lower left). He runs a vast complex of interests in steel, metalworking, textiles, electric power, locomotives, trucks, oils, soaps, perfumes, and hotels.

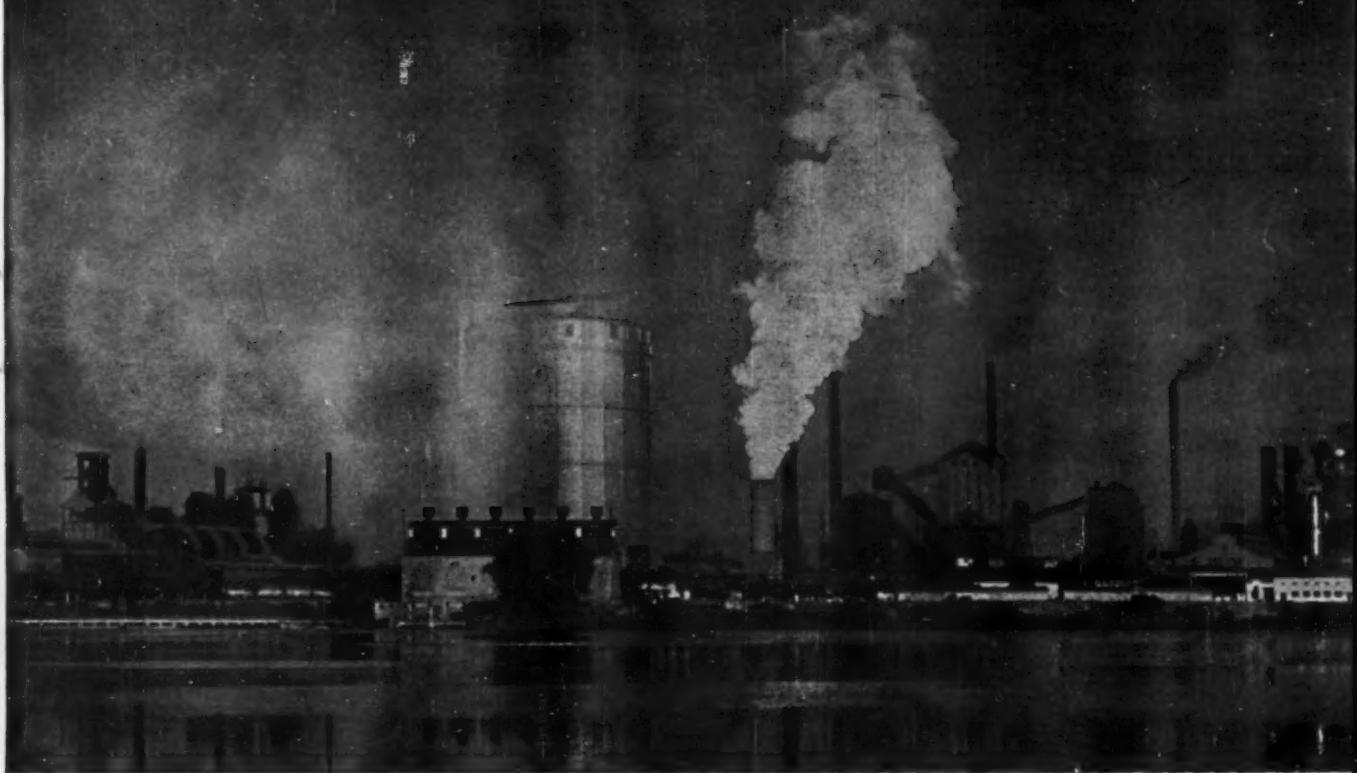
• **Enlightened Capitalism**—All told, the book value of Tata Sons, Ltd., today is more than \$400-million with an annual output of goods and services valued at almost \$200-million. But the importance of Tatas to the Indian economy far exceeds its size: Tatas represents, far more than any other Indian company, enlightened 20th Century free enterprise. Indians like J.R.D. Tata believe in mixing social-mindedness with business. His steel company was the first in India to introduce profit-sharing. His employees (almost 115,000 in all the Tata enterprises) are among the best paid and best housed in the country. "Jeh," as his friends call him, agrees with Indian Prime Minister Jawaharlal Nehru when the Indian leader says Marxism is an outdated 20th Century philosophy—as outmoded as 19th Century capitalism.

But while Mr. Nehru and the leaders of his Congress Party seem to agree with the Tata philosophy in theory, their actions don't always show it. Mr. Nehru has said it is not the government's intention to lop off the heads of "our tallest poppies." But in the past five years, Nehru has nationalized the Tata airline. More recently there

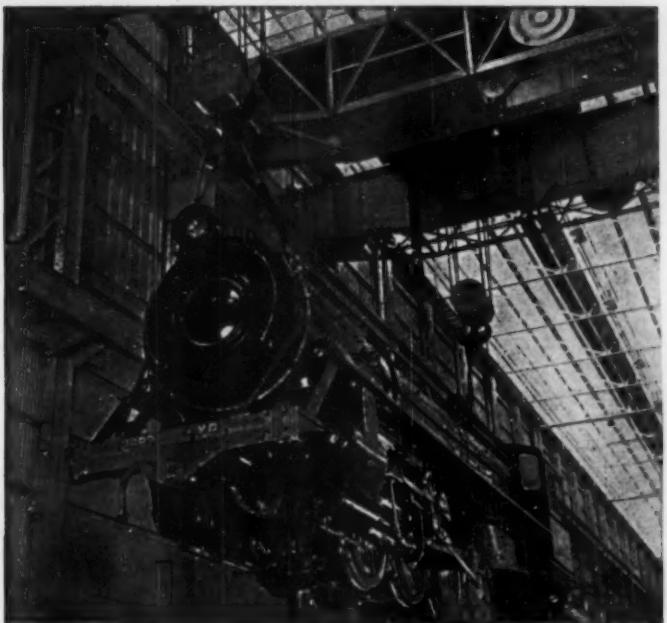


STEEL plant at Jamshedpur—with the help of





Kaiser engineers—is carrying out huge expansion after Tata overcame opposition which favored state-owned mills.



LOCOMOTIVES are produced by Tata Locomotive & Engineering Co. Some government officials and Indian Communist trade unions are clamoring for company's expropriation. Tata airline was nationalized earlier.

POWER to meet about 70% of Bombay's needs is supplied by Tata. The company operates both thermal and hydroelectric power plants.



175-foot chlorine barges reduce transportation costs

Chemicals are among the many industries turning to the nation's waterways for low-cost transportation of bulk materials. One producer taking advantage of these savings is the Stauffer Chemical Company of New York. They now have six Dravo-built barges, each of which can carry up to 620 tons of chlorine under 125 pounds pressure. They are designed to do an economical job of moving their cargo from plants on the Ohio, Tennessee and Cumberland rivers to Louisville.

There the barges are moored at a dock, designed and built by Dravo, where their contents are pumped to storage tanks. The cellular steel sheet pile dock is so arranged that three barges may be unloaded simultaneously in about 30 hours.

Barges, towboats and docks are examples of Dravo's unique experience "in and around water." For information on these, or any of the products and services listed below, write **DRAVO CORPORATION, PITTSBURGH 25, PENNSYLVANIA.**

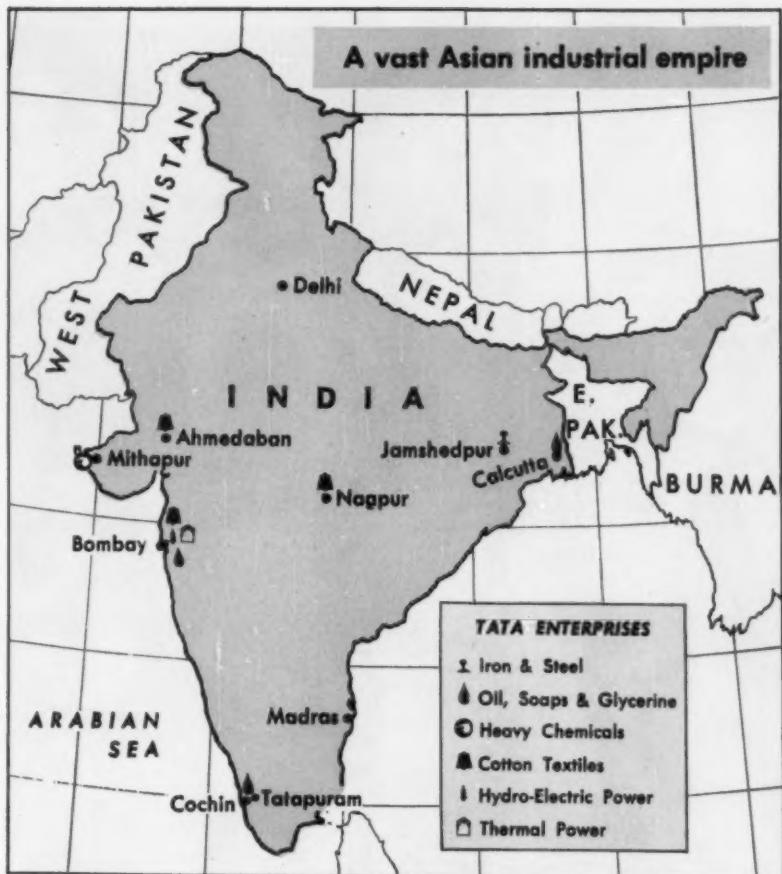
DRAVO
CORPORATION



Blast furnace blowers • boiler & power plants • bridge sub-structures • cab conditioners • docks & unloaders • dredging • fabricated piping
foundations • gantry & floating cranes • gas & oil pumping stations • locks and dams • ore & coal bridges • process equipment • pumphouses & intakes



river sand and gravel • sintering plants • slopes, shafts, tunnels • space heaters • steel grating • towboats, barges, river transportation



has been a clamor for expropriation of Tata Locomotive & Engineering Co. (Telco). And in the Indian Lok Sabha (the lower house of parliament), the most virulent attack on this Tata enterprise has come from Congress Party stalwart Feroze Gandhi—the Prime Minister's son-in-law.

• **Critical Problem**—That's why today Tatas faces an altogether new problem: How to keep up in the race to "socialize" India, yet not write the finale to the amazing Tatas success story. With capital scarce, taxation high, dividends restricted, production costs mounting, with imports slashed and industrial raw materials in short supply, how is private Indian enterprise to fulfill its targets under the Second Five Year Plan for Indian industrialization (BW—Apr. 7 '56, p119)? And if Indian private enterprise—led by Tatas—fails to achieve its goals, will this not add substance to charges of spokesmen for state ownership who say Indian business cannot deliver the goods?

I. The Early Years

India in the mid-19th Century was "the Empire." This period was the heyday of expanding British capitalism—Calcutta was only an annex of

London and Liverpool. Even Bombay's industrious Parsi colony—descendants of Persian Zoroastrians who had fled to Western India before the Moslem conquest in the 7th Century—could only live on the fringes of British enterprise. This group had prospered during the American Civil War when the Northern blockade cut British mills off from Southern cotton and Indian speculators stepped into the breach.

• **Ambitious Plans**—Jamsetjee Tata's organization of a small trading firm attracted no attention. But Tata had great plans. By 1874 he had established a textile mill at Nagpur in Central India, which in 1903 was expanded into a group of spinning and weaving mills. In 1897, Tata started a program of investment that developed into the Tata Hydroelectric Co.—now generating one-seventh of all India's power.

In 1904—reportedly because snobbish British hoteliers turned him away as an Indian—Tata built the \$1-million Taj Mahal Hotel in Bombay, still the premier Indian hostelry. But when Tata and his sons talked of going into the steel business, the British really gave him the horse laugh. A high British official in India of the time said he would eat every pound of steel Tata produced. Fifty years later, an-

other Tata told his 47,000 shareholders that Tata Iron & Steel Co. has so far produced 22-million tons of steel, paid \$365.5-million in wages, \$147-million in taxes, and over \$94-million in dividends.

• **Corporate Change**—In 1907, Jamsetjee Tata's small private trading firm graduated into Tata Sons & Co. The corporate structure was again changed in 1917 when the steel mill—in spite of British refusals to finance the project—finally went into production. Until 1945, Tata & Sons acted as managing agents of the joint stock companies of all the Tata enterprises.

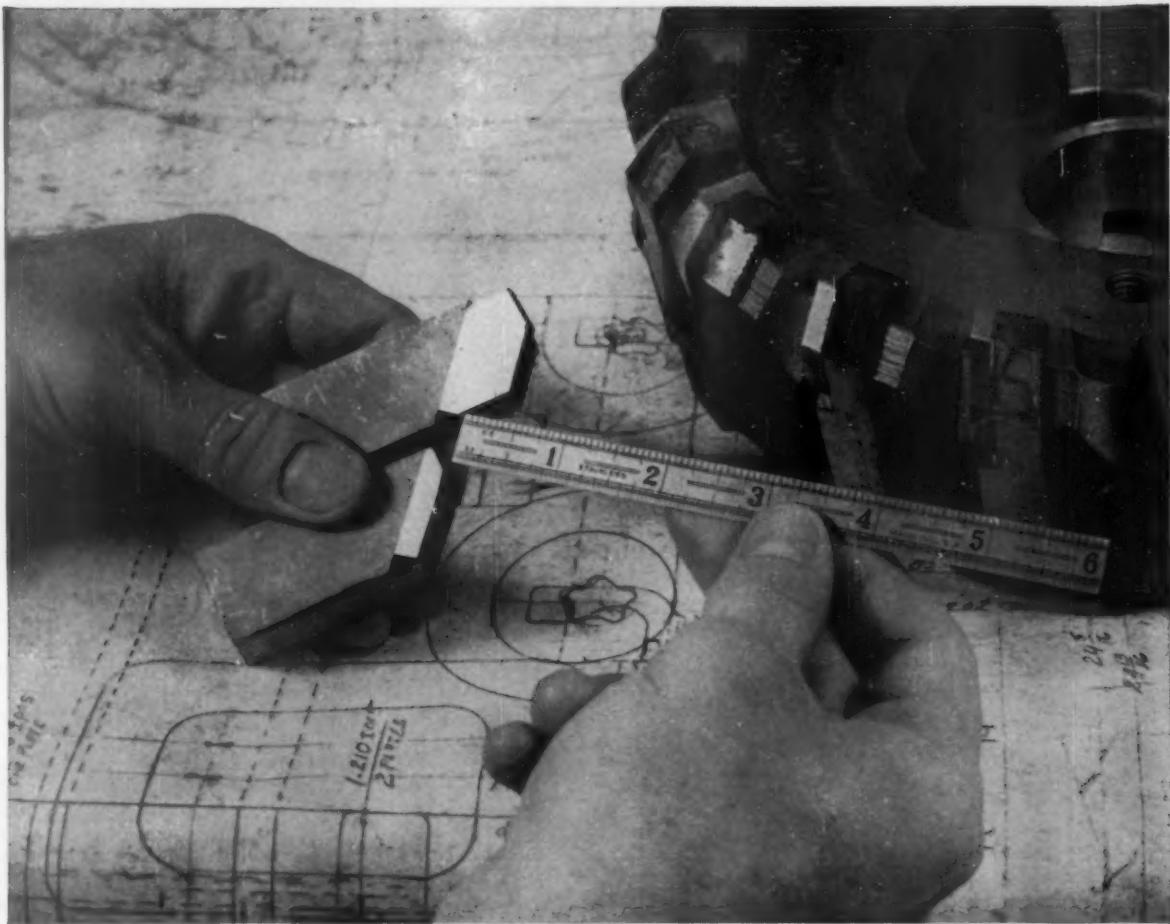
Thus, Tatas adopted the system of absentee British owners who appointed Indian-based British companies to oversee their investments in Asia. But at the end of World War II, with Indian independence in sight, Tatas streamlined its structure and set up a wholly owned subsidiary, Tata Industries, Ltd., a limited liability company that has taken over direction of all Tata properties much like a Western holding company.

• **Turning Point**—The event marked a turning point in Tatas' development—as did independence in 1947 in India's history. For a half century, Tata had fought the virtual monopoly of British-owned industry in India. Their own lack of knowhow and capital, the timidity of the Indian investor, forced Jamsetjee's sons and their heirs to inch their way into new sectors of the economy. But as Mohandas K. Gandhi's independence movement grew after World War I, the Tatas who attached themselves to it also grew. For to buy Tata rather than British was to buy Indian. Boycott of British goods was a weapon in the nationalists' arsenal.

II. Impact of Independence

From the early 1920s until 1947, Tatas and the Congress Party worked along parallel lines—slowly trying to wrest commercial and political power, respectively, from London's hands. When independence finally came, Tata was headed by J. R. D. Tata, a young, energetic, nationalist-minded but Western-oriented chairman who was friendly to the founding fathers of the Indian Republic.

Tatas, as in the past, was quick to sense that a new era had come—not only for Indian politics but for Indian business as well. Tatas pioneered an airline that was later to grow into Air India International. (J. R. D. Tata still serves as chairman of the board of the airline, even though it has been nationalized.) Tatas went into the manufacture of locomotives and trucks. The company began the switch from hydroelectric development to thermal power. It probed the growing consum-



Ingersoll Heavy-Duty Shear Clear Face Mill designed for cast iron or steel. Size of bevel is varied to suit depth of stock.

What Does Your Scrap Barrel Show?

Do you get over $\frac{1}{2}$ " of blade wear? A look into your scrap barrel will show that many blades were wasted because of cracks, misuse, improper design or misapplication of the cutter and grade of carbide. You probably can't tell why these blades failed prematurely because so many variables are involved.

We are used to working with these variables and can help you reduce your tool costs. Part of our product is the continuous counsel of your Ingersoll representative and our cutter engineers. They will consider the machine, material, speed, feed and finish requirements before recommending the tool which will do the best job at the lowest cost.

We will welcome an opportunity to tell you more about this service. Write:



If you do not have a copy of this book, write us and we will send you one. It describes in detail the complete line of Ingersoll inserted blade milling and boring tools. Ask for Catalog #668W

CUTTER DIVISION

THE INGERSOLL MILLING MACHINE COMPANY

505 FULTON AVENUE

ROCKFORD, ILLINOIS



TATA MEMORIAL HOSPITAL in Bombay is one of many social projects.

ers' market with soaps, perfumes, and air conditioners.

Steel Development—But the pride of all the Tata enterprises was still the \$57-million Tata Iron & Steel Co. And it was here that Tatas, as India's largest private enterprise, ran headlong into the advocates of state ownership in New Delhi. Still, Tatas managed to push its claim for expansion of its own steel facilities in the face of government plans to build three state-owned mills under the Second Five Year Plan. New Delhi acquiesced, guaranteed a \$75-million credit to Tatas from the World Bank. This week Tatas completed negotiations in New York for another \$32.5-million—\$17.5-million more from the World Bank and \$15-million in a "participation" loan from nine U.S. banks headed by the First Boston Corp. The loan will allow completion of \$280-million, 2-million ton expansion of Tata steel facilities.

III. The New Perspective

But it's clear that 10 years after independence, thinking at Tatas no longer runs parallel to that of New Delhi planners. Although Tatas practices an enlightened brand of capitalism, the combine is anathema to many New Delhi bureaucrats. On the other hand, other big Indian industrial amalgamations—like the Birla interests (BW—Jul. 30 '55, p90)—seem to have struck a bargain, however temporary, with the politicians. Perhaps that is simply because Tatas' social approach represents more of a threat to stereotype thinking in New Delhi that sees all capitalists as greedy monsters. To the contrary, 81% of Tata stock today is in the hands of charitable trusts endowed by the Tata family. An overwhelmingly large share of the combine's

profits go into scholarship funds, flood and famine relief, hospitals (picture, left), institutes of learning.

• **Fiscal Policy**—You get some idea of what Tatas is up against in dealing with Indian government policy from a recent statement of J. R. D. Tata about New Delhi's fiscal policies. Tata says that the new annual taxes on wealth and expenditure will force individuals in the higher brackets to pay "substantially more than 100% of their incomes." "In effect," he says, "in addition to the whole of their incomes being taken away, they will now be made to pay something for the right to live and work in this country." What makes Tata, usually a soft-spoken supporter of the Nehru government, lash out is the fact that the tax applies to corporations as well as individuals.

This policy has made it increasingly difficult for Tatas to find money at home for expansion. At the same time, foreign capital is inclined to shy away from India where experiments in government ownership are the vogue. Tatas, perhaps, is the only Indian enterprise that still is able to cope with

these difficulties. It is able to command support of the World Bank, to a lesser extent of U.S. private capital.

• **Uncertainty**—In a mixed economy—part government owned, part private as guaranteed by the Indian constitution—Tatas' future normally would be assured. But since 1947, the pressure to push India into industrialization has hustled the middle-of-the-road Congress Party to the left. The impatient effort to move ahead rapidly has bred over-hasty, over-ambitious planning, inflation, and increasing state control. So far, Tatas has met this challenge through a continuance of its principles of enlightened capitalism. But the future is unpredictable, probably depending on factors outside Tatas' control. Chief among them is the ability of the Indian economy to ride out its present economic crisis (BW—Oct. 12 '57, p89).

Men like J. R. D. Tata are fighting to avert the collapse of the present Indian economy. They are arguing on both sides—pleading with Nehru to give enlightened capitalism a chance, asking their American, British, West German, and French friends for help.

Split on European Free Trade

London-Paris differences over extent of British participation in Common Market program is causing a rift among the OEEC nations. Britain warns against "discrimination."

Real trouble faces the British-sponsored plan to link a Free Trade Area to the European Economic Community or Common Market (BW—Special Report, Jun. 29 '57, p70).

After two top-level meetings of the Organization for European Economic Cooperation, one held in mid-October and the other last week, it still is a toss-up whether the Macmillan government will manage to get agreement for the proposed Free Trade Area.

• **Pressures**—The main opposition is coming from the French government, which wants to use the six-nation Common Market (members are France, Italy, West Germany, and the three Benelux nations) as a halfway stage on the road to full political integration of Western Europe. As against this approach, the British, Scandinavians, and Swiss are taking a much more cautious line. They merely want to extend the area of free trade beyond the Common Market to include all or most of the OEEC members. The Germans and the Dutch stand about in the middle—hoping for closer political unity, but also hoping for the wider trading opportunities that the overlapping plans would bring.

Meanwhile, the British and French governments are being pushed in

opposite directions by business pressures. Last week, the Federation of British Industries (FBI) urged the Macmillan government to speed the negotiations for the Free Trade Area. At exactly the same time the Patronat, France's counterpart of FBI, urged the Gaillard government to forget the British plan and get on with the Common Market.

• **Rift**—If the Common Market should get started next year without agreement on the Free Trade Area, there would be a real danger that Western Europe would split in two. In fact, it's this danger that keeps the talks going. At the OEEC meeting in October, the French, Italians, and Belgians were ready for a breakdown when Britain's Chancellor of the Exchequer Peter Thorneycroft turned the tide with this blunt warning to the Common Market countries: If you start discriminating against our trade, we will protect ourselves; and a trade war could destroy other forms of European collaboration, including that in the defense field.

Immediately after Thorneycroft's threat, Reginald Maudling, special British minister in charge of European negotiations, offered British participation in the marketing schemes for farm products that have been pro-

posed for the Common Market. Previously, Britain had excluded agriculture from the Free Trade Area plan. Even now, it is not clear just how far the British will go in bargaining over agriculture, except that no British government is likely to drop the imperial preferences it now grants to Commonwealth nations. Nor is it likely to agree, as the West Germans have, to buy French wheat at the French support price, which is way above world prices.

This twin British initiative averted a breakdown at OEEC, led to last week's talks. But it still left open the problem involved in the fact that members of the Common Market are to have a common tariff toward all other countries, while members of the Free Trade Area are supposed to maintain their own separate tariffs toward countries outside the area.

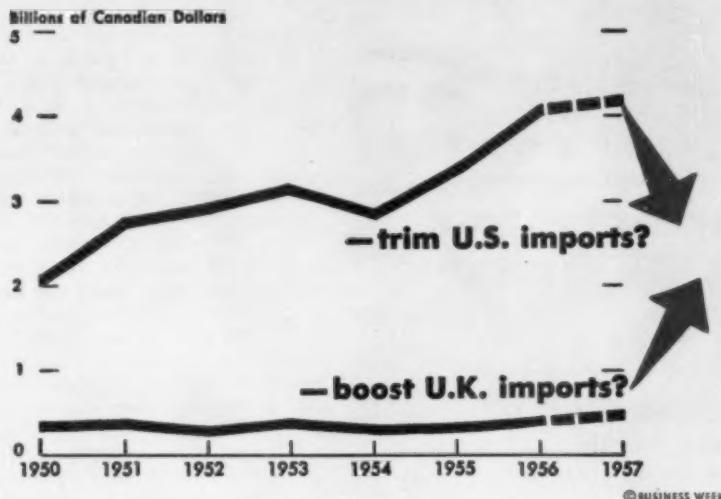
- **Posers**—It's this difference that produces what is called the "country of origin" problem. In the case of fully manufactured goods, the country of origin probably can be established fairly easily. But with raw materials and some semi-manufactured goods, there would be a real problem. These goods might be shipped into the lowest-tariff member of the Free Trade Area, and reshipped duty-free to the Common Market.

Perhaps more important is the fact that the members of the Common Market are not united on the question of extending free trade beyond The Six. The French are most opposed to giving low-tariff entry to British, Swiss, and Scandinavian goods without getting in return the same valuable advantages Paris managed to wring out of the other five Common Market nations. Among these advantages are (1) marketing arrangements for their high-price farm products; (2) an investment fund for Europe and others for French African territories; (3) raising of German and Benelux tariffs toward the current high levels prevailing in France and Italy; and (4) promises of mutual help in case France gets into balance of payments difficulties.

- **Uncertainties**—Britain may in the end be willing to match some of these concessions to the French. But Paris obviously doesn't expect the British price to be high enough. Last week, French Delegate Maurice Faure told the OEEC meeting that the Free Trade Area idea is "heavy with risks and uncertainties." Faure suggested that the best thing would be for all OEEC nations to join the Common Market.

- **Odds on a Compromise**—However, another meeting of OEEC's Free Trade Area Ministerial Negotiating Committee is slated for late this month. Meanwhile, the Germans and the Dutch will try to iron out the differences between London and Paris.

Can Canada Reverse Its Import Trend?



© BUSINESS WEEK

Wooing the British

In line with campaign promises to up buying from Britain, Ottawa's new government has dispatched a trade mission.

This week Canada's Conservative government took the first concrete step in its campaign to switch some Canadian buying from U.S. to British suppliers. A 50-man Canadian trade mission, headed by Trade & Commerce Minister Gordon Churchill, left Montreal for London.

The mission plans to do more looking than trading, for now. It will spend the next three weeks visiting Britain's chief industrial sites—Calder Hall, the world's first commercial nuclear power plant; the heavy industrial area around Glasgow; textile and other manufacturing plants in the Midlands; and the coal mines of Wales.

But the whole tenor of the talk about a swing from the U.S. to the U.K. for a big chunk of Canada's purchases abroad has sobered during the past few weeks. Nobody believes it's possible to make the 15% switch that Prime Minister John G. Diefenbaker called for in the heat of pre-election oratory.

- **U.S. Far Ahead**—A look at what's happened to British and American sales in Canada since the beginning of the Korean War shows why (chart). U.S. sales to Canada last year were more than \$4-billion, or just about double what they were in 1950. But the British sold only about \$485-million—about 20% more than their 1950 exports to Canada. Britain's share of the Canadian

market last year was only 8% compared with 18% in 1957. The U.S. share, on the other hand, has risen to 73%.

Still, London trade specialists say the very fact that British sales to Canada have remained relatively stable while U.S. exports have climbed steeply shows that there is an opportunity for the British. A realistic appraisal, they say, points to the possibility of a 3% or 4% increase in British sales over the next five years.

But, they warn, to do that Ottawa must drop restrictions on British companies tendering bids on federal, provincial, and municipal projects. London, meanwhile, acknowledges that there must be a bigger effort by British concerns to research and sell in the Canadian market.

- **Boost Capital Goods**—Since British exports to Canada since World War II have been largely consumer goods, London sees its best opportunity in boosting capital equipment. Electric power plants, heavy machinery, oil industry equipment, and such items show the best possibility of expansion.

The composition of the present Canadian delegation ought to help with this. Deputy mission head is James S. Duncan, former president of Massey-Harris-Ferguson, Ltd., and now chairman of the Ontario Hydro-Electric Power Commission. The mission also includes senior executives of such companies as A. V. Roe Canada Ltd., British Columbia Packers, Ltd., Canadian National Railways, International Nickel Co., Reynolds Aluminum Co. of Canada Ltd., John Inglis Co., Ltd. **END**

CONFIDENTIAL

A Report From Reliance to Management...on Atomic Products

Developments in this atomic era have led us into the exploration and production of operating devices for nuclear systems.

We are producing:

1. Hermetically Sealed, Canned Pumpmotors, for use in pressurized, reactor coolant systems.
2. Similar pumpmotors for auxiliary use as make-up pumps, drain disposal pumps, and shield coolant pumps.
3. Control rod drive motors.

We are developing:

1. Electro-mechanical, remote position indication equipment, for control rods and valves.
2. Low frequency power generators, for control rod drives.
3. Motor operated valves.

A test loop with associated instruments and equipment has been completed for exhaustive testing of pumpmotors. These facilities, backed by the experience of Reliance Engineering, are creating improved motors and drive systems for the new atomic era.

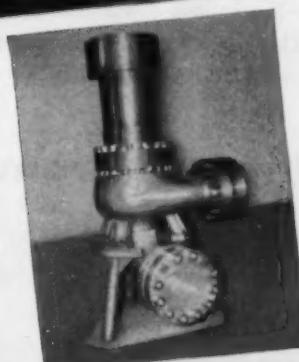
We are ready for your questions.

A-1063

RELIANCE  ELECTRIC

AND ENGINEERING COMPANY

Dept. 3411A, Cleveland 17, Ohio • Canadian Division, Welland, Ontario
Sales Offices and Distributors in Principal Cities



A Reliance 400 hp.
canned primary cool-
ant pumpmotor ready
for testing.



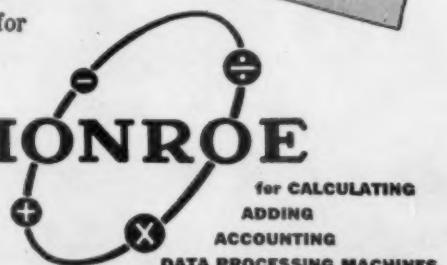
AUTOMATION
WORKS WONDERS
IN THE AIR

MONROE Automation works wonders on the desks of...

These top companies stay on top by insisting on the most advanced methods and equipment available. That's why today in their offices you'll find Monroe Automation setting new speed standards for figurework production. By cutting figurework red tape, by speeding and simplifying everyday office procedures, Monro-Matic desk calculators show real savings in both time and money. They have streamlined figurework for literally hundreds of businesses... *why not yours?* See the yellow pages for the Monroe Office nearest you.

Monroe Calculating Machine Company, Inc. General Offices: Orange, New Jersey. Offices for sales and service throughout the world.

See the MAN from **MONROE**



In Business Abroad

Rootes Blames Loss on Suez Crisis; Volkswagen Predicts Flood of Orders

Rootes Motors, Ltd., British makers of the Hillman, Sunbeam, and Singer cars, suffered a \$750,000 loss in the year ending July. Rootes says it's the result of the Suez crisis. In 1956 the auto group made a \$3-million profit.

Sir William Rootes says Suez hit his company hard—gas-rationing, liquidation of old stocks, and no model changeover.

Heinz Nordhoff, general manager of West Germany's Volkswagen, predicts 1958 orders will exceed VW's production capacity by 32,000 vehicles. That's in spite of an expansion program that includes a spare parts plant at Kassel and a plant to make engines and gears for delivery trucks at Hannover. Two other plants are located at Wolfsburg and Braunschweig.

Renault Mourns Boss of Its U. S. Sales, But Plans to Continue His Success Story

Renault, Inc., factory representatives of the state-owned French auto company (BW—Dec. 22 '56, p56), this week gathered the press in New York to confirm some bad news, and to present some good. Robert Lamaison, the active head of Renault's U. S. operation, died Nov. 8 in the crash of a trans-Pacific airliner between San Francisco and Honolulu.

Just how good a job Lamaison had been doing is apparent from some figures: Renault, which only really got moving here this year, is now the second seller of foreign cars. From Jan. 1 to Nov. 15 it has sold 22,000 cars, putting it right behind Volkswagen, which has sold 68,000 cars this year. Renault says it hopes to sell 30,000 before the year is out, plans to market 55,000 here next year.

To speed delivery, Renault has set up a chartered fleet of six ships to carry the cars over from France. One ship—each carries more than 1,000 cars—has already docked at San Francisco, another is coming into Houston soon. Renault now has 15 distributors in this country, 400 dealers. Big seller is the new Dauphine model, although Renault is still pushing the tiny 4-Chevaux.

Red China's Ability to Pay for Imports Seen as Tested by Wheat Needs

Canada is testing Red China's ability to pay for imports—in effect, it is an effort to find out just what possibilities there are for Western trade with Peking. A two-man Canadian mission entered China Nov. 5.

The Canadians are particularly intrigued by the

possibilities of selling surplus wheat. For the second year running, China has been drought stricken in the north, northwest, and east-central regions.

These areas normally supply 60% of the total mainland China wheat crop.

Hong Kong trade specialists believe that the shortage is so bad that Peking must buy wheat abroad. And Hong Kong would interpret a Chinese failure to place a substantial wheat order with Canada now as proof that the Chinese Reds' reported hoard of \$100-million in convertible sterling just doesn't exist.

Canadian-American Committee Maps

First Fields for Cultivating Harmony

The newly organized Canadian-American Committee—sponsored by a U. S. group, the National Planning Assn.—held its first meeting last week. The CAC is still at the stage where it is spelling out its program. But the general idea is to help wherever possible to untangle Canadian-American relations through the good offices of important U. S. and Canadian citizens.

As a start, the CAC decided to investigate five major areas:

- U. S. investment in Canada.
- Disposal of agricultural surpluses.
- Long-term requirements for natural resources, particularly as related to defense.
- Trade imbalance (page 135).
- Energy transfers across the border.

European Tour Bears Scant Fruit For U. S. Steelmen and Bankers

A group of U. S. steel company executives and bankers completed a tour of the European Coal & Steel Community last week. In Brussels, Vice-Pres. E. R. Johnson of Republic Steel announced his company has arranged a licensing agreement with a group of Italian companies for Republic's specialty steel products. That was about the only tangible result of the tour. No major U. S. loan for the companies in the Community is now under study. And Export-Import Bank Pres. Samuel C. Waugh pointed up the fact that the Community now is bound by policy to look for private rather than public funds for expansion.

U. S. Steel Vice-Pres. Howard Isham said European companies were making big demands for capital but that participation by American steel companies in their expansion was unlikely. The reason: American steelmakers, themselves, need capital, wouldn't want to give it to competitors. Isham told the Europeans his company has an investment budget that is 2½ times what will probably be approved due to the capital shortage in the U. S. William Johnstone of Bethlehem suggested that one way out might be for the Europeans and the Americans to cooperate in investments that might reduce the international imbalance of iron supplies—exemplified by the recent shortages of scrap and ore.



Walls May Crumble . . .

Like all man-built structures, churches, temples and majestic cathedrals are subject to the ravages of time and the elements. Even though they are holy places, their walls may crumble and return to the dust from which they came.

But the steadfast religious faith those walls stood for lives on in the hearts of men and women, growing stronger and brighter with each passing generation.

Today, in America, there's a constantly growing, deeper interest in religion. More and more people are

embracing the faith of their choice, and new churches and congregations are swelling their ranks. Americans everywhere are turning to the Creator with new-found strength and hope.

It is our hope — and our belief — that during this Thanksgiving Season more Americans than ever before will offer reverent prayers of thanks to God for America . . . that gave us freedom to live, work and worship as we please in our *God-given American Way of Life*.

Photo illustration — Ruins of the old Jamestown Church built in 1619

Norfolk and Western Railway

INTERNATIONAL OUTLOOK

BUSINESS WEEK
NOV. 23, 1957



At next month's NATO meeting Pres. Eisenhower will be pushed to go a long way in both military and economic cooperation—much further than the Administration is ready for now.

The Europeans, led by Britain, want a drastic integration of the NATO military effort, from weapons research to joint production.

Our NATO allies also are pushing for a big joint investment effort in the underdeveloped countries of Africa, the Middle East, and Asia.

Washington will go along part way with the military proposals. Secy. of State Dulles this week revealed that the U.S. will offer intermediate-range ballistic missiles to all NATO countries that want them. Nuclear warheads will be stocked under American custody, in countries that are agreeable. The U.S. also will seek some launching sites of its own in NATO territory.

Most West European governments seem ready to buy the Dulles program—and then go much further. They are talking about joint research programs and joint training of scientists. They seem interested in the joint production of modern weapons—with the U.S. producing an even larger share than now. At the same time, the NATO governments will seek a bigger say in both the deployment and the final use of nuclear weapons.

When it comes to economic cooperation, the pressure in Europe is for joint U.S.-European investment programs for Africa and the Middle East. These would be tied in with an expanded Colombo Plan in South and Southeast Asia.

Washington probably would go along with more joint planning of American and European aid and investment efforts. But Washington doesn't seem ready to accept more than a modest coordinating committee within the Organization for European Economic Cooperation. In contrast, some of our allies are thinking of a big new Atlantic aid program.

Still, some U.S. officials concede that Washington will have to pay a bigger price for real Allied cooperation than we had to pay before Sputnik. And Eisenhower may find at the NATO meeting that the price is higher than any of his assistants have imagined.

— • —

Even if agreement can be reached on military and economic questions, NATO still will face the terrible problem of Algeria. Unless the Algerian war can be ended soon, it may tear the NATO alliance apart.

This week, to be sure, Dulles and French Foreign Minister Pineau agreed to patch up the Allied quarrel over arms for Tunisia. But this accommodation doesn't get to the root of NATO's dilemma in North Africa. That is built around the increasing reluctance of the U.S. and Britain to see France continue its course in Algeria, and French threats that, failing U.S.-British support in Algeria, France will simply pull out of NATO.

These differences are rapidly coming to a head—as is shown by the Tunisian arms row. The Gaillard government is about to ask Washington for a sizable loan (probably \$500-million) to replenish France's gold reserves. But, in effect, Gaillard will be asking the U.S. to back France in Algeria as it did in Indo-China. At the same time, the French are pushing the British to

INTERNATIONAL OUTLOOK (Continued)

BUSINESS WEEK
NOV. 23, 1957

keep all their NATO ground forces on the Continent, so that France's ground forces can stay in Algeria.

As things stand now, neither Washington nor London is willing to pay France's price—at least not while France's Algerian policy remains so rigid. British and American officials are convinced that France cannot end the Algerian war without drastic changes in policy. They are inclined to think that Premier Bourguiba of Tunisia, rather than Premier Gaillard, has the right answer. Bourguiba is advocating a federation of North Africa to include Tunisia, Morocco, and an independent Algeria—the federation to be part of a French Commonwealth.

—•—

There is still another problem that Washington must worry about—Communist pressure to undermine NATO countries, especially France and Italy, from within. This pressure will take on a new dimension now that the Western alliance is in trouble. Clearly, it is one of the things the leaders of world Communism discussed in Moscow during the confabs that followed the anniversary celebrations of Nov. 7.

Communist activity in Western Europe will focus on NATO plans to establish bases for U. S.-built IRBMs. The Reds will try to get popular front governments established in France and Italy. Such governments would gladly block the NATO plans. If this can't be done, Moscow may push the local Communist parties into blocking the base plans by violence.

Communist pressure could get as strong in Western Europe over the next year or two as it was during the early days of the Marshall Plan.

—•—

British economists have been making some estimates of what the fall in world commodity prices has done this year to exports of primary products. They have come up with the conclusion that the value of 1957 exports will be \$6-billion or \$8-billion below 1956.

These figures include exports of primary products from the U. S., Canada, and other industrialized countries. But much more than half of the estimated drop in export income will fall on the "developing" countries of Africa, Asia, Australasia, and Latin America. The drop in their purchasing power for imports is far greater, according to these estimates, than the whole of this year's U. S. foreign aid and loans.

So the British economists are arguing that international emergency action must be taken to support the most vulnerable commodity prices. To date, however, the British government has refused to take up the plan and press it on Washington.

—•—

The easing of money rates in the U. S. and Canada has been received with great relief in London. In fact, the first reaction of Londoners was to shed their fears that the U. S. is heading into a sharp recession. They also felt that London's 7% bank rate, now the world's highest, would not have to be kept so high much longer.

On second thought, London financial observers have decided that (1) cheaper money is not enough to turn the tide of a U. S. recession, and (2) London's high money rates will have to be maintained at least until Britain's wage battle has been won (BW—Nov. 16 '57, p149).

TRUCKING . . . Vital Transportation Link



One of Akers' new GMC diesel powered units equipped with Fuller 10-speed R-96 ROADRANGER Transmission.

40 more FULLER ROADRANGER® Transmissions added to Akers fleet

To Akers' original fleet of 10 GMC 860 tractors, 40 new GMC DF-862's are now being added . . . and all 50 tractors are equipped with the Fuller 10-speed R-96 semi-automatic ROADRANGER Transmission.

Says William H. Tomlin, Assistant to the General Manager and Superintendent of Equipment, Akers Motor Lines, Inc., Gastonia, North Carolina: "We are very pleased with the service

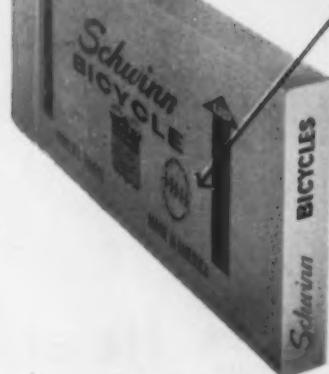
that the Fuller ROADRANGER Transmissions are giving us. They are a favorite with our drivers."

The closely spaced gear ratios of the ROADRANGER Transmissions permit Akers drivers to keep their engines turning continually in the maximum efficiency rpm range . . . resulting in less maintenance, lower fuel consumption, longer engine life, and less driver fatigue.

See your truck dealer. Ask him for full details on Fuller semi-automatic ROADRANGER Transmissions for your new trucks.



FULLER MANUFACTURING COMPANY
TRANSMISSION DIVISION • KALAMAZOO, MICH.
Belt Drive Forge Div., Milwaukee 1, Wis. • Shuler Axle Co., Louisville,
Ky. (Subsidiary) • Sales & Service, All Products, West. Dist. Branch,
Oakland 6, Cal. and Southwest. Dist. Office, Tulsa 3, Okla.



The Better Schools Campaign
as publicized by
Arnold Schwinn & Co., America's
leading manufacturer of bicycles

**SEEN BY THOUSANDS...your shipping containers
can now be used by your company to render an important
public service...and at no additional cost.**

Last year American businesses contributed over \$150,000,000 in advertising time, space, and service to public service campaigns. They know that public service is the best kind of public relations. Now, in cooperation with the Advertising Council, Inc., the Stone Container Corporation is contributing art work, dies and printing to enable business firms to promote the public service campaigns of their choice on their corrugated shipping containers at no extra cost. America's leading companies recognize containers as an effective advertising medium and have been quick to take advantage of this exceptional "no-charge" Stone service. It certainly is worthy of your investigation.

Send for new FREE BOOK

on how you can associate your company
with a public service campaign on
your shipping containers.



**Stone Container Corporation
4240 West 42nd Place, Chicago, Illinois**

Gentlemen: Please send me without obligation, your booklet giving detailed information on public service advertising on shipping containers.

Name _____

Firm _____

Title _____

Address _____

City and State _____

**STONE CONTAINER
Corporation**

4240 West 42nd Place • Chicago, Illinois

Sales Offices in Most Principal Cities

LABOR

Mediators Brace for Stormy '58

Contract negotiations next year will be hot and heavy, and the stakes will be high. Both sides will dig in their heels.

Joseph F. Finnegan (right), director of the Federal Mediation & Conciliation Service, expects to be the busiest behind-the-scenes labor relations man in the U.S. in 1958. FMCS is bound by law to be directly, or indirectly, involved in every major labor dispute. And 1958, says Finnegan, "is going to be a stormy year on the labor front."

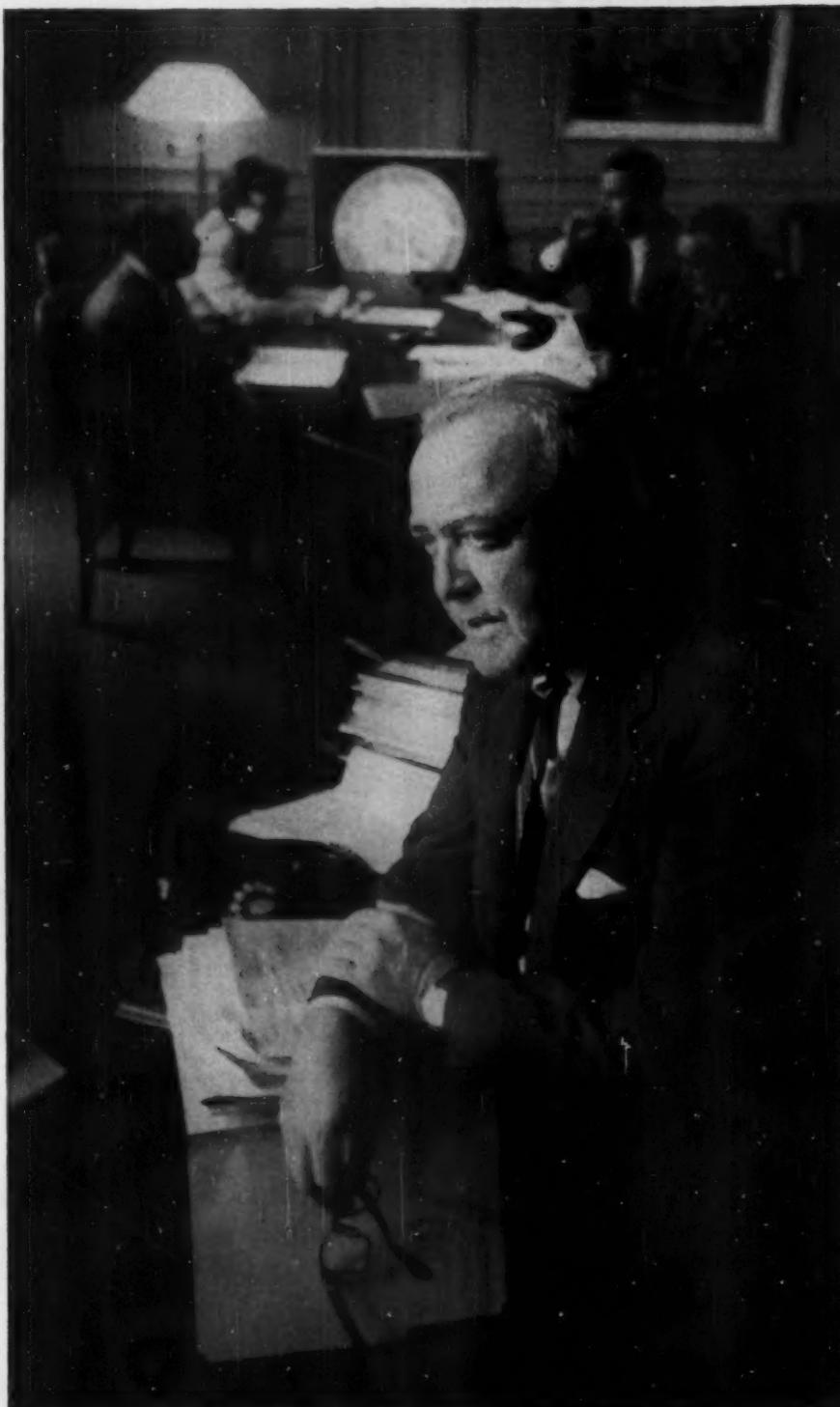
Warning flags are already flapping, says the mediation chief. Unions are expected to ask for a big pay boost and perhaps a breakthrough with some new welfare program or the shorter work-week. Meanwhile, he adds, "management is going to scan the union demands a lot closer next spring than in the past."

Finnegan believes that most employers will not limit themselves to opposing union demands but will press counter proposals "to achieve contract changes that will grant management greater flexibility in work assignments and eliminate unproductive time practices."

- **Pattern Makers**—The FMCS director is certain that both sides will dig in their heels because the stakes are higher in a year with "a number of pattern-making contracts." Starting in the spring, major negotiations will involve the aircraft industry from March to July; autos from May to June; farm machinery in August; glass and maritime industries in September; and electrical manufacturers in a limited re-opening in October. These will influence thousands of other contract negotiations in a wide variety of industries.

- **Trouble Spots**—Of the economic scene, "we don't know which way the cat will jump," Finnegan says. But no matter which way the economy moves, he predicts that we are going to have trouble. He cites two examples:

Aircraft: Some 87,000 employees will be affected by bargaining in the spring. The International Assn. of Machinists and United Auto Workers, the principal unions in the industry, have indicated that they intend to work more closely than in the past. A sliding off in airframe manufacture due to general curtailments and to a shift to missiles has caused a tense situation for the start of bargaining. "It certainly will



JOSEPH F. FINNEGAN, director of Federal Mediation & Conciliation Service, has had a year and a half to get set for the new wave of pattern-making negotiations.

How to Develop Successful Salesmen

JUST PUBLISHED. An instant source of sales-boosting ideas and methods that will put new life into your entire selling staff! Describes the best tools, aids, and devices for all your training needs—where to get them, how to choose them, how to use them. Filled with ready-to-use charts and formulas. By Kenneth Haas, Loyola U. 312 pp., Illus., \$6.00

Successful Selling Strategies

JUST PUBLISHED. Shows proved sales techniques used every day by topnotch salesmen; and gives advice from 17,300 buyers on exactly how to sell to them! Includes checklists for self-improvement; sections on group selling, after-sale and telephone selling, your wife's role, and other sales success helps. By C. L. Lapp, Washington U. 343 pp., \$4.95

Adventures in Small Business

JUST PUBLISHED. One hundred nineteen success stories of ideas, products, and inventions developed into profit-making businesses. All true stories, abounding in human interest; telling how the business started, the obstacles it faced, how they were overcome. The authors analyze the know-how and some of the gimmicks of success that went into these businesses. By the editors of *Fortune*. 273 pp., Illus., \$3.75

Business Reports

Gives practical methods for writing business reports that will win favorable consideration and acceptance of your ideas. Deals with short memos as well as complicated analyses; covers every step from digging out essential facts to polishing your report for best readability. By C. R. Anderson, A. G. Saunders, and F. W. Weeks, all U. of Illinois. 3rd Ed., 407 pp., Illus., \$6.00

Letters for Special Occasions

Win friends and good will, build better business relations—with the special-occasion notes and memos that are so easy to write. See how, with this collection of good examples: letters of invitation; thank-you, congratulatory, and sympathy notes; letters of recommendation; reference requests; etc. Scores of ideas to adapt to your own use, in the letters of top executives and letter-writing experts. By Frank Egner. 162 pp., \$3.50

TEN DAYS FREE TRIAL • SEND COUPON

McGraw-Hill Book Co., Inc., Dept. BW-11-23
327 W. 41st St., N. Y. C. 36

Send me book(s) checked below for 10 days' examination on approval. In 10 days I will remit for book(s) I keep, plus few cents for delivery costs, and return unwanted book(s) postpaid. (We pay delivery costs if you remit with this coupon—same return privilege.)

Haas—*How to Develop Salesmen*, \$6.00
 Lapp—*Successful Sell. Strat.*, \$4.95
 Fortune Ed.—*Adv. in Small Business*, \$3.75
 Anderson et al.—*Business Reports*, \$6.00
 Egner—*Letters for Special Occasions*, \$3.50

(PRINT)
Name _____
Address _____
City _____ State _____
Company _____
Position _____

For price and terms outside U. S. BW-11-23
Write McGraw-Hill Int'l., N. Y. C.

... hometown mediation is best. However, in multistate enterprises there is not much choice but for the federal agency to step in . . .

STORY starts on p. 143

require more strenuous mediation efforts than in the past, when things were booming," Finnegan points out.

Missiles: A sharp pickup in this field brings on other labor-management problems. For example, a recent Teamsters picket line at the rocket launching base at Cape Canaveral, Fla., required quick mediation efforts to allow special crews to pass through picket lines and de-activate firing pads. FMCS, like everyone else in government today, is paying close attention to guided missiles. Its job is to make sure labor missiles don't slow down—or halt—the missiles program.

Finally, Finnegan sees more work for the Mediation Service if the Teamsters are tossed out of AFL-CIO. "It can't help but complicate things all around," he says. FMCS can't intervene in jurisdictional flare-ups among unions, but open warfare between Teamsters and AFL-CIO is practically certain to add to the mediation workload, as management—caught in the middle—seek stability in contractual relations with unions legitimately representing their employees.

• Policy—With all the pulling and hauling that lies ahead in 1958, what kind of an outfit is the Federal Mediation & Conciliation Service? What role does it play in labor-management disputes? What kind of a man heads up this independent government agency? To what extent does he shape its policy? What impact will this have on the outcome of 1958 conflicts?

The mediators would have you believe that the service works in the spirit of their favorite Biblical quotation: "Come now, and let us reason together." But critics have accused FMCS of meddling.

"The sole duty of the Mediation Service," states a government brochure, "is to help the parties reach their own agreements." This high purpose often comes down to the practical art, as one mediator put it, "of letting a guy who is out on a limb crawl back while at the same time making it seem as though he isn't."

• Voluntary Service—The Federal Mediation & Conciliation Service was founded in 1913 as part of the Labor Dept. Finnegan is its seventh director and the fourth to fill the \$20,000-a-year job since Taft-Hartley set up the service as an independent agency. Seven regional directors are responsible for the mediation activity in their respective areas: FMCS has a staff of 200, averaging close to \$10,000 a year.

Although FMCS gets into most major labor disputes, mediation is voluntary, offered at no charge by the government. Either party in a dispute may request a mediator's assistance. But under Taft-Hartley, FMCS must be notified when negotiations threaten to lead to a dispute—or if an agreement is not reached 30 days in advance of the termination or reopening date of the contract.

This doesn't mean the FMCS will automatically become active in the case. Where practical, it will stay on the sideline while a state or local agency seeks a settlement. "Hometown mediation is best," Finnegan says. "If the states can do the job, the federal agency should stay out. However, in the case of multistate enterprises, there is not much choice but for the mediation board to step in."

The agency may enter a case on its own motion, but only for such a compelling reason as a threat to the national interest or security. Once notified of a dispute, FMCS appoints a mediator to contact the parties.

• Who's Who—Mediators, or commissioners, as they are officially called, are located throughout the country, and are on call 24 hours a day. The mediator usually operates informally, meeting separately or jointly with both sides, although he can call formal conferences with the parties when necessary.

The mediators range from an ex-printer with an eighth grade education to alumni of Ivy League colleges. Statistically, 33% have professional and government backgrounds, mostly lawyers; 29% have labor backgrounds such as labor relations directors, management consultants; 12% have backgrounds in both unions and management. The common denominator is that all are pledged to impartiality, and are promptly fired if they show any bias.

Finnegan encourages his staff to play a prominent role in civic and community life because, he believes, outside activity strengthens the hand of the mediator. "If he walks into a tense situation, he comes in as a man of stature in the community."

Finnegan has also stepped up training sessions—four each year in different cities. In addition to providing an opportunity to exchange ideas and experiences, the sessions provide training in new techniques and briefings on the latest developments within the field of labor-management relations.

• Boss' Biography—Finnegan was born in North Adams, Mass., in 1904, the son of a typographer. After graduating

PENNSYLVANIA RAILROAD



schedules extra protection
in its employee benefit program...



Pennsylvania RR's Conway, Pa., yard—world's largest electronically controlled freight classification yard.

...with **GROUP MAJOR MEDICAL INSURANCE**
from **NEW YORK LIFE**

Right down the line, The Pennsylvania Railroad believes that "Good health is good railroading!" Their extensive health program—which received the 1956 citation from the Industrial Medical Association—stresses the finest in staff and equipment.

Included in this outstanding employee benefit program is Group Major Medical Insurance from New York Life. This insurance provides a substantial measure of protection against the heavy expenses of long or serious illness and injury.

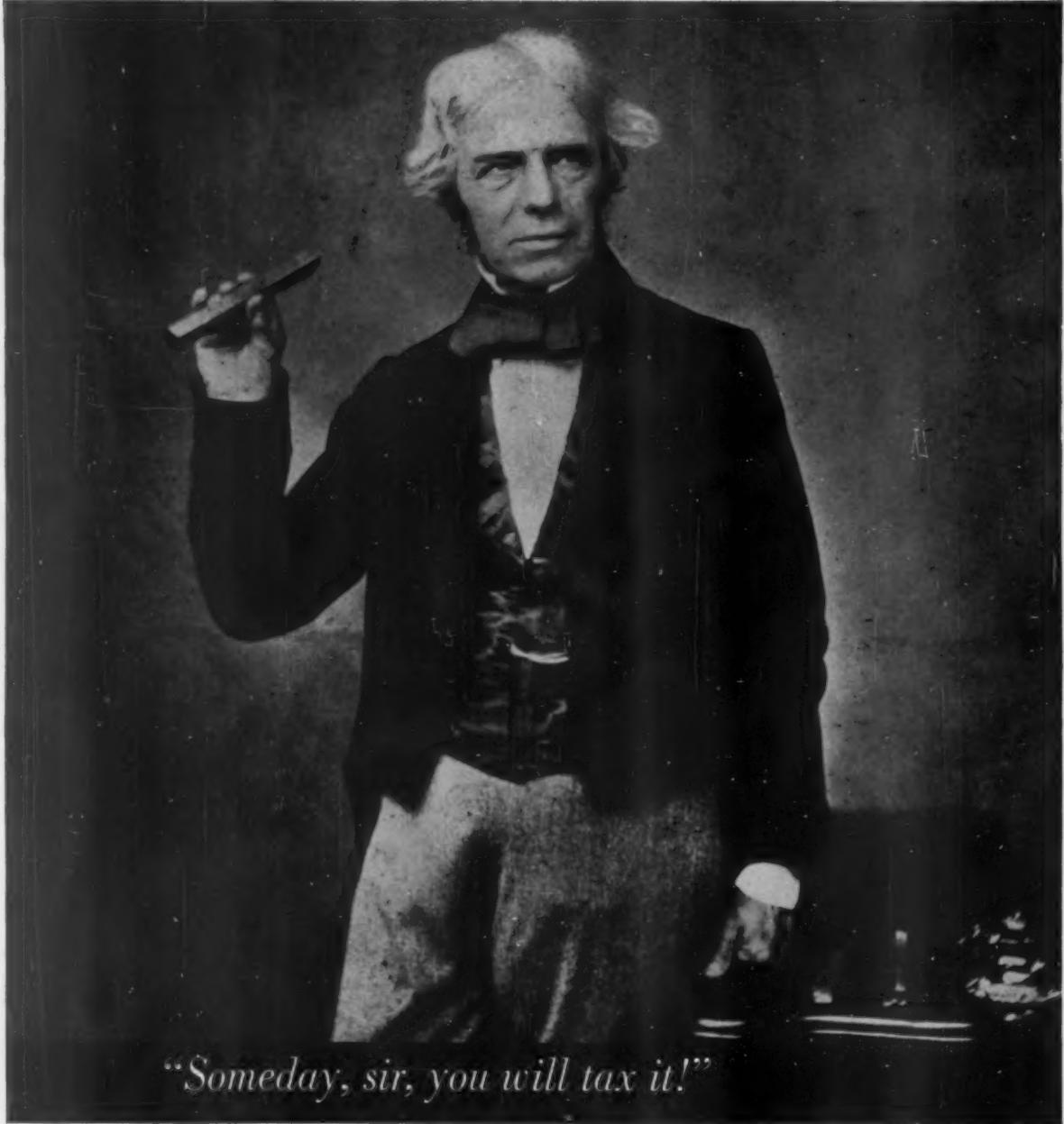
The Pennsylvania Railroad is among the thousands of organizations in the United States and Canada which find that sound health programs result in improved employee morale, greater efficiency and generally better employee relations.

If you would like to have more information on Major Medical Insurance, on any other low cost Group Coverages, on how they can be installed and administered in your own organization—ask your agent, broker or write New York Life direct.

NEW YORK LIFE
INSURANCE COMPANY

51 Madison Avenue, New York 10, N. Y.
(In Canada: 320 Bay Street, Toronto, Ontario)

WHEN YOU THINK OF GROUP INSURANCE THINK OF NEW YORK LIFE



“Someday, sir, you will tax it!”

Michael Faraday was right. The wealth of nations is now generated by the principle of electrical induction he discovered, and the dynamo he invented, 125 years ago. Today, the transformation of science into the power and productivity of technology is the professional concern of our subscribers.

They are the men of Technical Management. In the design of new products, processes, and plants, Technical Management men set the buying pattern of industry. To place your product in that pattern, advertise it in the magazine they read.

SCIENTIFIC AMERICAN, INC., 415 MADISON AVE., N. Y. 17

THE MAGAZINE READ BY TECHNICAL MANAGEMENT

**SCIENTIFIC
AMERICAN**

from Columbia, he wrote a column for the Wall Street Journal, and at night went to Fordham Law School. He became an assistant U.S. attorney in 1931, and worked under Thomas E. Dewey until 1934, when he joined the law firm of Lauterstein & Conroy. A trial lawyer by inclination, Finnegan—like many other lawyers in the mid-1930s—wandered into labor law. The Wagner Act of 1935 had his firm's clients—including R. H. Macy & Co. and the Metropolitan Opera Assn.—clamoring for advice. So, says Finnegan, "I became an expert awfully fast."

During World War II, Finnegan, a major in the Army Air Force, served as assistant chief of the Military Personnel Div. of the Air Transport Command. He had the delicate task of getting rid of unsatisfactory officers. "I just went to a general's office and gave him 10 reasons why he should go home," Finnegan explains.

After the war, Finnegan returned to his law firm. Shortly after, he met a coming young man at Macy's, James P. Mitchell, now Secretary of Labor. When Pres. Eisenhower was looking

for someone to fill the mediation spot in January, 1955, Mitchell suggested Finnegan who by that time had his own practice, specializing in labor and arbitration cases.

• **A One-Man Command**—Generally, Finnegan has more power over staff than any comparable government official. He can hire and fire almost at will. Staff members do not have Civil Service status, and all are appointed by the director, who in turn is appointed by the President and confirmed by the Senate. At the time of his confirmation, Sen. Matthew M. Neely (D-W. Va.) noted that Finnegan was the first nominee in the senator's experience against whom there was not a single protest.

Associates of FMCS' boss say that Finnegan has the Irish storyteller's charm, as well as an Irish temper capable of giving a staff member a dressing down that normally would stick in the craw if it weren't for Finnegan's facility for a face-saving turnaround. Then, says one employee, "He's so nice you can't stay mad at him."

• **Preparing for the Storm**—Finnegan

occupies a big comfortable office with a large conference table—a reminder of the "let's sit around the table and talk" philosophy of the service—next door to the Labor Secretary's office. But he doesn't have much time for chit-chat with his old friend. With 1958 a little more than a month away, he is increasing the time spent out of Washington, contacting labor-management people and his field staff.

FMCS has had a year and a half of grace to prepare for a much tougher bargaining scene, Finnegan admits. He believes that the time has been well spent. "We've tried to consolidate our organization and to improve our mediation skills and techniques. These are going to be put to the test in the period ahead.

"Our advice is for free," he says. "The companies and the unions don't have to take it. But we can't wait until they get into trouble. And, if we don't develop acceptability, our service isn't much good. Developing acceptability . . . that's our job between now and the time trouble breaks out in 1958."

Carpenters Give AFL-CIO New Headache

The union, backbone of Building Trades Dept., is under Congressional scrutiny. Unfavorable revelations might force AFL-CIO to crack down—and possibly split the federation.

Sen. John L. McClellan's racket investigating committee last week subpoenaed the records of the International Brotherhood of Carpenters—and may have set in motion events that could shatter the House of Labor.

While the AFL-CIO is surviving in apparent good shape its moves to expel the International Brotherhood of Teamsters, similar action against the Carpenters could lead to a break up of the two-year-old federation. The 750,000-member craft union is the backbone of the AFL-CIO's Building & Construction Trades Dept., which is already disenchanted with labor's merger, accomplished in December, 1955.

• **Third Under Scrutiny**—The McClellan committee has been probing the affairs of two other major Building & Construction Trades unions—the Teamsters, in public hearings, and the International Union of Operating Engineers, so far privately. The Carpenters is the third in the 19-union department to come under Congressional scrutiny. Reportedly, others are on the list locked away in the files of Robert F. Kennedy, the Senate committee's chief counsel.

If AFL-CIO action is limited to the Teamsters, no repercussions are likely in the department. But, if the Senate committee's revelations prompt the fed-

eration to a further crackdown on the Operating Engineers or Carpenters, trouble may follow deep within the merged labor movement. The Building Trades are already talking of the possibility of secession—though not seriously, now. With further provocation, the threat may quickly turn into a real one.

• **Continuing Friction**—The present breakaway talk isn't the result of AFL-CIO steps to expel the Teamsters next month, but of a continuing jurisdictional dispute with the federation's Industrial Union Dept.

Crafts and industrial unions have overlapping jurisdictions in many areas. Up to now, the feuding has gone on within the bounds of the merged AFL-CIO's rules. The federation's president, George Meany, has worked with considerable skill—but not much success—to settle the jobs dispute.

Early in August, a special convention of top officers of the Building Trades turned down Meany's proposals of a crafts-industrial union peace plan (BW—Aug. 1957, p. 119). The group advised Meany that they wanted to avoid "the hectic days and chaotic conditions of 1935 and 1936," when the former AFL split apart. But, they added ominously, they have "never conceded jurisdiction

over any part of construction—and never will."

• **Conciliatory Move**—Somewhat more conciliatory, the IUD earlier this month renewed a proposal of a formal procedure ending in final and binding arbitration of work disputes between the crafts and industrial unions. At the same time, unofficially, it was critical of what IUD spokesmen described as "unreasonableness" in the Building Trades.

Although efforts are being made to head it off, an open dispute on the jurisdictional issue may develop at AFL-CIO's coming convention in Atlantic City. Whether it does or not, there is no doubt that the resistance to the old CIO union in the IUD has led to a new, tight cohesiveness in the Building & Construction Trades Dept. This can be expected to develop into a united crafts stand behind either the Operating Engineers or Carpenters if either is involved later in a showdown with AFL-CIO over internal affairs.

• **Hutcheson Case**—Some indication of this could be seen earlier this year when the Carpenters' Pres. Maurice A. Hutcheson and other union officials took the Fifth Amendment—in violation of AFL-CIO ethical codes—in a Congressional investigation of an Indiana highway right-of-way deal.

At first, the federation's top policymakers indicated that Hutcheson would be called to account for his action. Meany issued a critical statement.

Building Trades leaders sided with

**Pennies
a Year**

**FOR RECORD STORAGE
WITH LIBERTY BOXES**



Keep inactive records safe, clean and neat with Liberty Storage Boxes. You'll find them sturdily built... and so economical. The cost of a Liberty Box over a ten-year period figures out at just pennies a year! Write today for free catalog—find out how Liberty Boxes can help you lower record storage costs. Sold by stationers and office equipment dealers from coast to coast.

BANKERS BOX CO. Dept. BW-9
2407 North 28th Avenue • Franklin Park, Illinois

Planning to Build?

THIS CATALOG CAN
SAVE YOU THOUSANDS
OF
DOLLARS



Find out how to build at far less cost... how to build in only weeks instead of months... how to build to fit your exact requirements with Steelcraft's versatile, pre-engineered standard steel buildings. This easy-to-understand, 20-page catalog fully describes applications, building types, construction detail and optional designs. Mail coupon now!

**THE STEELCRAFT
MANUFACTURING CO.**
9017 BLUE ASH RD. DEPT. 311B
CINCINNATI 42, OHIO

Rush me your STEELCRAFT STANDARD STEEL BUILDING catalog.

NAME _____
FIRM _____
STREET _____
CITY _____ STATE _____

Hutcheson. There was short-lived tension. Then an Indiana grand jury cleared Hutcheson and his fellow officers of any wrongdoing and, relieved, AFL-CIO's executive council decided privately to table consideration of any steps against the Carpenters leader. Many subsequently pointed out that Hutcheson's part of the deal did not involve union funds so, unlike cases involving Teamsters officials, the council was not required to act against him.

The Indiana land deal could be brought up again by the McClellan committee, but it is unlikely that its investigators subpoenaed the craft union's records with no more than that

in mind. They refused to say what they were looking for, but it's common knowledge that Carpenters activities in many parts of the country have been under surveillance for some time.

• **Dark Cloud**—The possibility that Kennedy's probers may turn up new and damaging revelations involving the Carpenters has many in AFL-CIO worried. Since the committee won't hold hearings on the craft union before the federation's convention, its problems will not be a direct issue there. But the Carpenters situation can hardly escape showing up as another dark cloud on the horizon, to be kept in sight while dealing with other controversial issues on the agenda.

Supreme Court Rules Out Union Bias

Decision in Negro rail workers' suit says unions must represent all employees fairly and without discrimination.

The U.S. Supreme Court this week ruled, unanimously, that Negro railroad workers may go into federal courts to force their union to represent them fairly and without discrimination.

• **Present Patterns**—Although most internationals now bar race bias and require that all workers are to be represented alike, despite race, creed, or color, discriminatory practices haven't been wiped out. A recent survey of attitudes in local unions toward Negroes indicated:

• While the general pattern is one of acceptance of Negroes, there are many locals in which Negroes do not in fact participate in union affairs.

• Most locals still accept, and even insist on, the same racial relationship in the plant as in the community; in the South, this means that while there are technically integrated union locals there are almost no integrated factories, and Negro employment opportunities and seniority rights are arbitrarily limited.

This is particularly true of the conservative craft unions and railroad brotherhoods—which traditionally have had rules aimed at keeping Negroes out of top-rated jobs.

• **Issues Decided**—The suit decided by the Supreme Court this week had such a background. It was brought by Negro employees of the Texas & New Orleans RR., who charged that the carrier abolished 45 jobs held by Negroes in its Houston freight house—then immediately hired whites to perform the same work. The road later hired back a few Negroes, without seniority. The Brotherhood of Railway & Steamship Clerks (AFL-CIO) did nothing to protect them from the discrimination and refused to give them the same kind of protection given white

employees, according to the Negro unionists.

A suit filed against the union in federal court in Houston under the Railway Labor Act requested an injunction and money damages against the union. Lower courts dismissed the suit, on grounds the National Railroad Adjustment Board had exclusive jurisdiction over the dispute.

But Justice Hugo Black, who wrote the decision concurred in by the eight other justices of the high court, ruled that the Negroes were entitled to a court trial on their charges against the union. Said Black, "If these allegations are proven, there has been a manifest breach of the union's statutory duty to represent fairly and without hostile discrimination all of the employees in the bargaining unit."

"This court has emphatically and repeatedly ruled that an exclusive bargaining agent under the Railway Labor Act is obligated to represent all employees in the bargaining unit fairly and without discrimination because of race and has held that the courts have the power to protect employees against such invidious discrimination," Justice Black said.

The court ruled on the issue again to underscore its precedent for allowing federal courts to protect employees from racial discrimination by their own union. Its decision in the Texas case, involving the processing of grievances, noted that a bargaining representative "can no more unfairly discriminate in carrying out [its] functions than it can in negotiating a collective bargaining agreement."

The court has ruled similarly in cases involving industrial workers.

• **Picketing Case**—In a separate action, the Supreme Court refused—without



This illustration shows Caterpillar Tractor Co.'s specially constructed group lamp replacement unit at work in its plant in Peoria, Ill. Caterpillar uses Sylvania lamps because of their uniform quality, high maintained output.

For maintained lighting levels . . . low-cost group replacement CATERPILLAR counts on Sylvania Fluorescent Lamps

Caterpillar's group lamp replacement program is a far cry from the old method of calling the maintenance man for every burned-out lamp. And far more efficient, too—because Caterpillar makes sure of maintained, high lighting levels from replacement to replacement with high-uniformity Sylvania Fluorescent Lamps.

Engineered for top efficiency throughout lamp life

Over the years, high lamp output and uniform performance have been continuing

engineering projects at Sylvania. Today's Sylvania Fluorescent Lamps represent the latest—and the finest—in phosphor developments and stability—in filament and coating durability—in all the important details that add up to *low-cost, high-level lighting*.

Colors and special lamps for every type of job

In the full line of Sylvania Fluorescent Lamps, there is a color, type and size for every operation in your business—from

precision assembly to warehouse. For low-cost installation and top lighting efficiency, Sylvania lamps offer specific answers to many of your current lighting problems.

For planning help—for information on group replacement—call your Sylvania Supplier, or write:

SYLVANIA ELECTRIC PRODUCTS INC.

Lighting Division, Dept. 7L-1411

60 Boston Street, Salem, Mass.

*In Canada: Sylvania Electric Products (Canada) Ltd.
Shell Tower Building, Montreal*



SYLVANIA . . . fastest growing name in sight!

LIGHTING • RADIO • ELECTRONICS • TELEVISION • METALS & CHEMICALS



HOW CREATIVE BANKING HELPS YOUR
SOUTHERN PROFITS GROW

Putting the treasurer in personal touch with the Southeast

The moment you call The C&S Service Office in New York or Chicago, you are in Atlanta . . . with a direct line into every community in the Southeast. Maintaining service offices to help you keep closer check on your Southern financial operations is just one of many ways in which C&S creative banking adds dollars to your profits in the Southeast. For full details of all the C&S services for business, write today:

GEORGIA'S LARGEST BANKING SYSTEM

The Citizens & Southern National Bank

AND AFFILIATES IN GEORGIA



Members FDIC

Atlanta: Broad & Marietta Streets, Atlanta 2, Ga. Chicago: 400 N. Michigan Avenue, Chicago 11, Ill. New York: 500 Fifth Avenue, New York 36, N.Y.

DAVIDSON SUPPLIES CATALOG

*explains how Laboratory Control
ASSURES QUALITY OFFSET*



● DAVIDSON CORPORATION, pioneer in the simplification of offset operation, wants to send you a free copy of its latest Supplies Catalog—one of the most informative ever prepared by an offset equipment manufacturer.

The Catalog explains how Davidson Supplies are "Laboratory-Controlled" to assure consistently fine quality offset on every job you run. You'll find scores of new products in the Catalog, including a full line of plates, platemaking equipment, operating supplies, blankets and a host of production attachments. You'll also be interested in the illustrations and descriptions of the Davidson Embee folding machines and ProType.



DAVIDSON CORPORATION
A Subsidiary of Mergenthaler Linotype Company
39 EVERSON STREET, BROOKLYN 5, NEW YORK
Distributors in all principal cities and Canada

opinion—to hear an appeal by the Brotherhood of Railroad Trainmen against a federal court injunction barring picketing of the New York Central.

The railroad had obtained the injunction to prevent picketing by the union to protest a decision to close one of the railroad's yards. The lower courts—upheld, in effect, by the Supreme Court action—ruled this controversy was not a labor dispute covered by the Railway Labor Act or the Norris-LaGuardia Anti-Injunction Act.

Labor's Press . . .

. . . reports concern
about lagging state mergers
. . . political successes . . .
new bargaining problems.

Lack of progress toward completing mergers of state AFL and CIO organizations worries leaders of nationally united AFL-CIO. Only 32 state bodies have amalgamated, despite an early-December deadline. A few others appear on the verge of uniting. But, AFL-CIO's Pres. George Meany faces the unhappy prospect of having to take charters away from important rival AFL and CIO organizations in more than a dozen heavily industrialized and unionized states, and to set up new, unified—and controversial—councils.

"Labor swung the election tide in many states" in early November, says the AFL-CIO Committee on Political Education. COPE credits "effective political action" for helping Democratic Gov. Robert Meyner win overwhelming reelection in New Jersey, and for political successes in local voting in Detroit (a "near-sweep of the city council by labor-backed candidates"), Philadelphia (the defeat of an "unfriendly" judge), and Oswego, N. Y., where a union official was elected mayor.

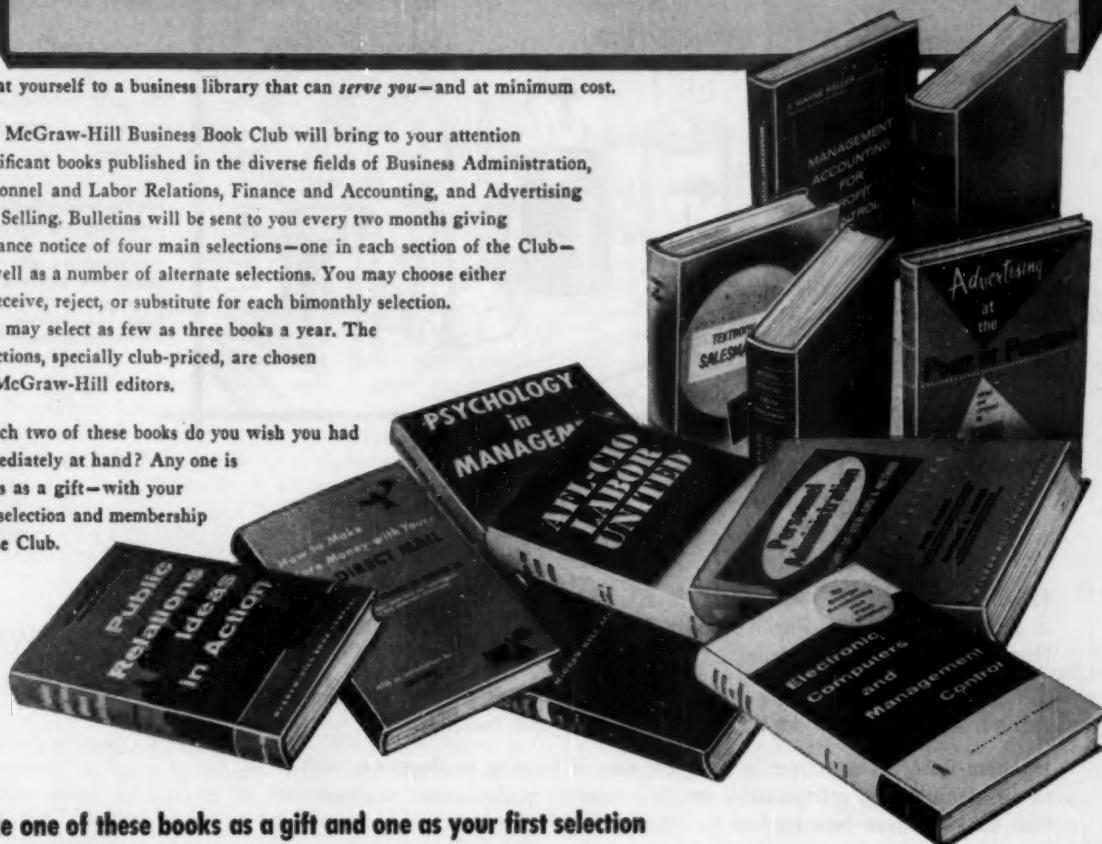
Plant migration is bringing "new and special problems to the collective bargaining table," the monthly Collective Bargaining Report of the AFL-CIO Research Dept. comments. The publication, which influences the thinking of many of the federation's 140 internationals, acknowledges that there are many "legitimate reasons" for moving plants. But, it suggests that unions bargain with employers on ways "to maintain work at the existing plant"—by "special cooperation" if it will help or on provisions for "relocating the affected workers" or for "a financial cushion (of severance pay) for displaced workers who do not choose to move or cannot be transferred."

Take any one of THESE OUTSTANDING BOOKS **FREE** WITH MEMBERSHIP IN THE Business Book Club

Treat yourself to a business library that can *serve you*—and at minimum cost.

The McGraw-Hill Business Book Club will bring to your attention significant books published in the diverse fields of Business Administration, Personnel and Labor Relations, Finance and Accounting, and Advertising and Selling. Bulletins will be sent to you every two months giving advance notice of four main selections—one in each section of the Club—as well as a number of alternate selections. You may choose either to receive, reject, or substitute for each bimonthly selection. You may select as few as three books a year. The selections, specially club-priced, are chosen by McGraw-Hill editors.

Which two of these books do you wish you had immediately at hand? Any one is yours as a gift—with your first selection and membership in the Club.



Take one of these books as a gift and one as your first selection

Public Relations Ideas in Action

Edited by Allen H. Center. A well-indexed compilation of over 300 provocative ideas and tested techniques.

Publisher's Price, \$5.00 Club Price, \$4.25

AFL-CIO: Labor United

By Arthur J. Goldberg. A swift and dramatic narrative of the labor movement in America and an analysis of the recent AFL-CIO merger.

Publisher's Price, \$5.00 Club Price, \$4.25

Advertising at the Point of Purchase

Edited by the Association of National Advertisers, Inc., with the Point-of-Purchase Advertising Institute. A comprehensive treatment of the sound use of this extremely complex medium.

Publisher's Price, \$6.95 Club Price, \$5.90

Essentials of Industrial Management

By Bethel, Arwater, Smith, and Stackman. A condensed, balanced overview of the basic functions of business and industrial organization.

Publisher's Price, \$6.00 Club Price, \$5.10

Psychology in Management

By Mason Haire. An integrated statement of various psychological principles with profound implications for industrial management.

Publisher's Price, \$4.75 Club Price, \$4.00

Electronic Computers and Management Control

By George Kosmetsky and Paul Kircher. A nontechnical publication that covers both electronic computers and operations research.

Publisher's Price, \$5.00 Club Price, \$4.25

Management Accounting for Profit Control

By I. Wayne Keller. Coordinated cost accounting and budgetary planning and control procedures used to guide management in decision making.

Publisher's Price, \$7.00 Club Price, \$5.95

Principles of Management

By Harold Koontz and Cyril O'Donnell. Principles and techniques underlying the managerial process and their application to management.

Publisher's Price, \$6.50 Club Price, \$5.50

How to Make More Money

With Your Direct Mail, 3d Ed. By Edward N. Mayer, Jr. "A storehouse of solid information" on the creation, production, and distribution of successful direct mail.

Publisher's Price, \$6.00 Club Price, \$5.10

Personnel Administration, 3d Ed.

By Paul Pogors and Charles Myers. A consistent philosophy of personnel administration as a basic management function with typical cases.

Publisher's Price, \$6.50 Club Price, \$5.50

Textbook of Salesmanship

By Frederic A. Russell and Frank H. Beach. A valuable fund of current information for salesmen and sales administrators.

Publisher's Price, \$6.25 Club Price, \$5.30

Financial and

Administrative Accounting

By C. Aubrey Smith and Jim Ashburne. Explains clearly all the accounting methods, principles, and procedures that concern businessmen.

Publisher's Price, \$7.00 Club Price, \$5.95

The Business Book Club

330 West 42d Street, New York 36, N. Y.

Please begin my membership by sending me the books indicated below. I will be primarily interested in the following section of the Club: Business Administration; Personnel and Labor Relations; Finance and Accounting; or Advertising and Selling, although I may choose books from any section.

All selections I choose will be at the member's special price plus postage and handling. I may resign my membership at any time after accepting three selections.

Gift Copy

First Selection

Additional Selection if desired

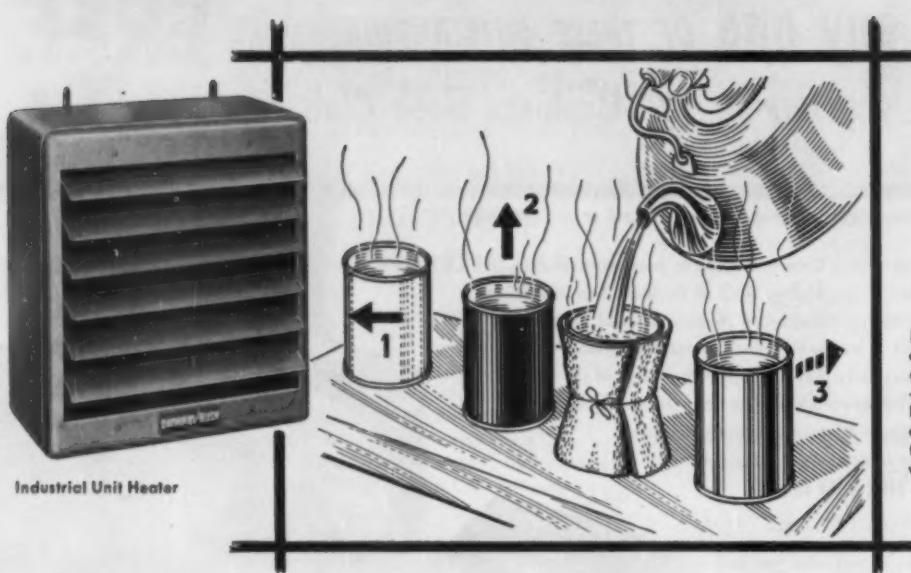
Name _____ (Please Print)

Address _____

City _____ Zone _____ State _____

This offer is available only in the United States and its possessions. In Canada write McGraw-Hill Canada, 253 Spadina Road, Toronto 4.

Heating seems simple



Industrial Unit Heater

Heat is transmitted by (1) conduction (2) convection or (3) radiation. Four cans—one painted white, one black, one polished and one covered with asbestos, filled with boiling water will cool at different rates.*

But...

Heating for a "family" of 283,972 (that's the number of people in New York City Housing Authority buildings who enjoy comfortable Dunham-Bush controlled heating) is another story.

Yes, heating for apartment buildings, hospitals, schools, homes, factories requires dependable products, technical abilities and facilities.

Dunham-Bush manufactures a complete line of heating products (as well as air conditioning, refrigeration and heat transfer equipment) . . . offers heat transfer know-how backed by a total of 167 years of experience . . . has world-wide manufacturing and distribution facilities.

Want to know more about us? For free brochure "This is Dunham-Bush", write Dunham-Bush, Inc., West Hartford 10, Connecticut.

*Black can cools most rapidly (Stewart-Kirchhoff Law)

DUNHAM-BUSH

Serving YOU through

AIR CONDITIONING • REFRIGERATION • HEATING • HEAT TRANSFER

WEST HARTFORD, CONNECTICUT • MICHIGAN CITY, INDIANA • MARSHALLTOWN, IOWA • RIVERSIDE, CALIFORNIA • UTICA, NEW YORK

heat-x

HEAT-X, INC.
BREWSTER, N.Y.

BRUNNER

THE BRUNNER CO.
GAINESVILLE, GA.

SUBSIDIARIES

DUNHAM-BUSH (CANADA), LTD.
TORONTO, CANADA

DUNHAM-BUSH, LTD.
LONDON, ENGLAND

BRUNNER CORPORATION (CANADA) LTD.
PORT HOPE, ONTARIO

In Labor

Canadian Rail Unions Hit Carriers With Demand for 35¢ Wage Package

Non-operating rail unions in Canada last week asked two major railways—the Canadian National and Canadian Pacific—for a "package" raise estimated at about 35¢ an hour. Included in the demand, which covers some 140,000 workers, are an "improved" vacation plan, an eighth paid holiday, severance pay, and a bar against farming out work normally done by non-operating unionists.

These demands on the carriers added to a growing unrest in Canadian labor-management relations. A strike by the Seafarers' International Union in Montreal is now in its fourth month as over-all labor conditions on the Great Lakes and St. Lawrence waterfront continue tense. Meanwhile, the British Columbia pulp and paper industry was strikebound at midweek as two U.S. unions—the Pulp, Sulphite & Paper Mill Workers and the Papermakers & Paper Mill Workers—pressed demands for a 12½% raise.

ILGWU Adds to Investment In Housing, Coast to Coast

International Ladies' Garment Workers' Union investments in housing soared to \$63-million last week as the union earmarked \$5.5-million for 360 housing units for Navy personnel at the Point Mugu Naval Air Missile Test Station in California. The money comes from welfare fund reserves.

Here's the latest breakdown in housing investments by the ILGWU, which is parlaying social consciousness and investment policies: \$20-million for Veterans' Administration housing throughout the country, \$15-million for cooperative housing in New York City, \$10-million each in housing at the Stead Air Force Base in Nevada and at the Little Rock (Ark.) Air Force Base, the \$5.5-million in California, and \$2.6-million for housing in Puerto Rico.

British Unions Are Better Off In Exchequers Than Ever Before

Britain's trade unions are in better financial health than ever before, a government study shows.

Although total membership rose only slightly in 1956, trade union income, expenditure, and reserves "increased substantially."

At the beginning of 1957, the 400 registered unions covered in the report had total funds of nearly \$224-million.

British unions showed an aggregate membership of 8,549,000, as compared with about 18.5-million in the U. S. The unions' income during the year was about \$89-million. About 60% of this went into working expenses, another 20% into sick, accident, death and retirement benefit funds, and 10% into unemployment and strike pay and other benefits. The report says "about 2%" went into political funds.

Agreement on "Modified" Union Shop Ends Seven-Year Santa Fe Dispute

Fifteen non-operating rail unions and the Santa Fe ended a seven-year dispute over a union-shop contract this midweek. As the strike deadline approached, the carrier agreed on a contract including what it called a "modified union shop clause."

Under its terms, the road's 42,000 employees covered by the agreement have 60 days to join the union—or be discharged. About half, or 20,000, aren't members now. All new employees must go into the union of their craft.

Better Watch Out When You Try To Cancel Workers' Right to Coffee Break

The coffee break in the day's work routine may be yours to give but not to take away. The National Labor Relations Board decided last week that the Fleming Mfg. Co. of Cuba, Mo., committed an unfair labor practice by ending a coffee break privilege without consulting its workers' union.

Workers in the Fleming plant were served free coffee each morning until they voted for the International Assn. of Machinists to represent them. The NLRB ruled that dropping the free coffee after the election was an illegal reprisal under Taft-Hartley. The board ordered the company to bargain with the IAM on coffee breaks as well as wages and hours.

Birmingham Construction Workers Accept Pay Hike, End Tie-Up

A 10-week strike that shut down between \$10-million and \$12-million in construction in the Birmingham area ended this week. Striking unions accepted wage increases ranging from 30¢ to 35¢ an hour over two years.

Two of three unions originally involved in the walkout—the Bricklayers and the Carpenters—settled with the Alabama Chapter of the Associated General Contractors last week for immediate 20¢ raises, 5¢ an hour more next May, and 10¢ on Sept. 1, 1958. The Common Laborers held out a week longer, signed for 15¢ now and 15¢ in 1958.

The unions had asked for increases of up to 60¢ an hour in a two-year period. At least five other unions settled earlier, without striking.

*This announcement is neither an offer to sell nor a solicitation of offers to buy any of these securities.
The offering is made only by the Prospectus.*

NEW ISSUE

November 14, 1957

1,000,000 Shares

Transcontinental Gas Pipe Line Corporation

Common Stock

(Par Value 50¢ per Share)

Price \$17.75 per Share

Copies of the Prospectus may be obtained in any state only from such of the several Underwriters, including the undersigned, as may lawfully offer the securities in such state.

White, Weld & Co.

Stone & Webster Securities Corporation

Blyth & Co., Inc.

Eastman Dillon, Union Securities & Co.

The First Boston Corporation

Glore, Forgan & Co.

Goldman, Sachs & Co.

Harriman Ripley & Co.

Kidder, Peabody & Co.

Lazard Frères & Co.

Lehman Brothers

Incorporated

Merrill Lynch, Pierce, Fenner & Beane

Paine, Webber, Jackson & Curtis

Smith, Barney & Co.

Dean Witter & Co.

A. G. Becker & Co.

Drexel & Co.

Equitable Securities Corporation

Hallgarten & Co.

Incorporated
Hemphill, Noyes & Co.

Hornblower & Weeks

Lee Higginson Corporation

A. C. Allyn and Company

American Securities Corporation

Bear, Stearns & Co.

Clark, Dodge & Co.

Dominick & Dominick

W. E. Hutton & Co.

Laurence M. Marks & Co.

F. S. Moseley & Co.

The Ohio Company

Salomon Bros. & Hutzler

Shields & Company

F. S. Smithers & Co.

Spencer Trask & Co.

Tucker, Anthony & R. L. Day

G. H. Walker & Co.

*This announcement is neither an offer to sell nor a solicitation of offers to buy any of these securities.
The offering is made only by the Prospectus.*

NEW ISSUE

November 14, 1957

\$20,000,000

Transcontinental Gas Pipe Line Corporation

6 1/8% Debentures due 1978

(Due May 1, 1978)

Price 99.50%

Plus accrued interest from November 1, 1957

Copies of the Prospectus may be obtained in any state only from such of the several Underwriters, including the undersigned, as may lawfully offer the securities in such state.

White, Weld & Co.

Stone & Webster Securities Corporation

Blyth & Co., Inc.

Eastman Dillon, Union Securities & Co.

The First Boston Corporation

Glore, Forgan & Co.

Goldman, Sachs & Co.

Harriman Ripley & Co.

Kidder, Peabody & Co.

Lazard Frères & Co.

Lehman Brothers

Incorporated

Merrill Lynch, Pierce, Fenner & Beane

Paine, Webber, Jackson & Curtis

Smith, Barney & Co.

Bear, Stearns & Co.

Incorporated

A. G. Becker & Co.

Drexel & Co.

Equitable Securities Corporation

Hallgarten & Co.

Hemphill, Noyes & Co.

Hornblower & Weeks

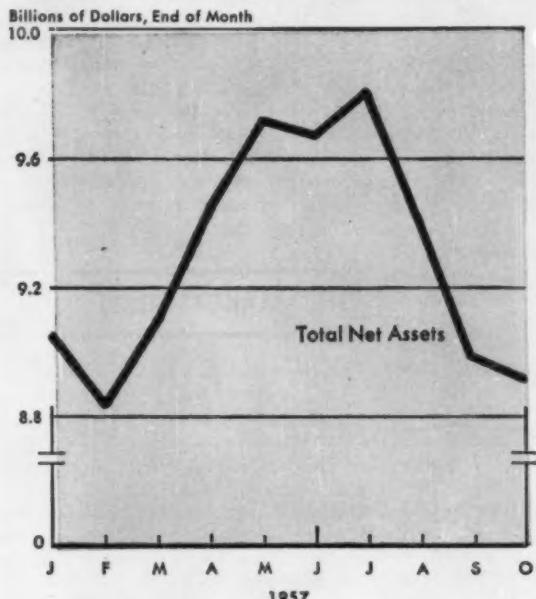
Lee Higginson Corporation

Dean Witter & Co.

THE MARKETS

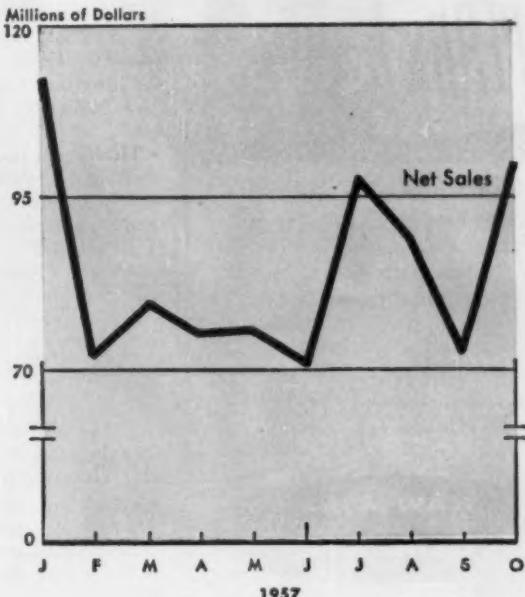
Mutual Funds

Despite a drop in their net assets . . .



Data: National Assn. of Investment Companies.

New money keeps rolling in.



Mutuals Cling to Their Charms

Since the war, stock market breaks have failed to dent sales of the mutual funds, and the same seems true today. New money is still going in faster than redemptions.

While the 1955-57 bull market was freewheeling along, mutual funds looked glamorous. They proved a popular attraction to many small investors, and their claim that diversification and professional management provided big profits—plus protection—was backed up by their performance in the market.

But last week it was clear that mutual funds have been sliding downhill along with the rest of Wall Street. As the chart above shows, net assets of the open-end investment companies have dipped from \$9.8-billion at the end of July to \$8.9-billion at the end of October.

Even so, the glamor of the mutual funds has not faded. This is evident from the climb in net sales—sales less redemptions—from \$97.7-million in July to \$100.5-million in October. In fact, net assets would be less than they are except for the downy cushion the flow of new money has provided.

• **Misgivings**—These figures are bound to perplex many of Wall Street's most respected members, who for years have

looked askance at mutual funds. During bull markets, these critics admit, mutuals might be a sound investment. The fresh money poured into the trusts for investment in the 1955-57 bull market acted as one of the forces that helped propel securities prices upward.

But in bear markets, they argue, the trusts could collapse under the pressure of a major panic and aggravate market declines. The high liquidity of mutual fund shares, so the reasoning goes, would prompt many shareholders to turn in their shares for cash. This would force investment company managers to deplete their portfolios—to pay back shareholders—and thus further accentuate market lows.

As yet, these misgivings never have been realized in the postwar period—mainly because the market has not suffered a sustained slump. In 1929, for example, the collapse of the funds helped thrust stock prices down. This bleak record during 1929 kept the trusts in Wall Street's doghouse from that date until the postwar boom years;

many Wall Street men believe they should still be in chains.

• **Recent Behavior**—In recent boom years, the funds' over-all record has been good, partly because of management and partly because a throng of sales agencies have been set up to peddle mutual fund shares. New sales—much of them from monthly accumulation plans—have continued to climb, while redemptions have so far been small.

This pattern has held true even during the short but sharp market breaks that have disrupted the postwar rise in securities prices. Surveys undertaken by the open-end trusts show, for example, that in the May to October break of 1946, mutual fund investors purchased \$98.8-million worth of shares, redeemed only \$38.7-million. During the week that followed the start of the Korean War (when the market's industrial average skidded 6.9%), investors purchased \$9-million shares, redeemed \$8.2-million. In the Eisenhower heart attack market (the week ending Sept. 30, 1955), mutual funds racked up sales of \$22.5-million, redeemed only \$10.1-million.

The same trend has been evident during the present slump. Redemptions, as measured in percentage of

Studying Industrial Sites?

Ask this firm about SPERRY Santa Clara County

SPERRY GYROSCOPE COMPANY

"Location near your customers is a key point in selecting new plant sites, and "Santa Clara County seemed to fit this requirement best . . ." according to Mr. E. B. Hammond, Manager of Sperry's Sunnyvale Development Center.

For accurate, up-to-date information, write today for this new folder—*"DISTRIBUTION FACTS ABOUT THE WEST"*.



SAN JOSE
SANTA CLARA COUNTY
California

SAN JOSE CHAMBER OF COMMERCE
Dept. 14, San Jose, Calif.

**NOW! Save hours
of drudgery**



**with new
CURVE-LINE TAPES**

For chart makers, engineers, draftsmen, layout men . . . anyone who has to "draw" broken, dotted or solid lines . . . these new 1/16" and 1/32" Chart-Pak Curve-Line Tapes can save hours of drudgery.

(1/16" Curve-Line)

Precision printed, precision slit, pressure-sensitive — easily applied either freehand or with new Chart-Pak "Tape-Pen" (as shown) — Curve-Line Tape will follow a straightedge, curves, angles — smoothly and accurately.

(1/32" Curve-Line)

In 8 styles, 14 colors, Curve-Line is the newest in the Chart-Pak line — which includes hundreds of patterns and combinations; also Border Line Tapes, templates for plant and office equipment layout, Pictograph and flow-chart symbols, and plastic workboards.

FOR FULL INFORMATION simply clip this ad to your letterhead and mail to
CHART-PAK, INC.
131 River Road, Leeds, Mass.



Facilities also available for special printing, precision slitting, to your order.

sales, have remained at about a normal industry level, 27%, although they did spurt upwards momentarily at the beginning of the market decline in mid-July and during the post-Sputnik days. And new sales easily topped shares turned in for cash; they reached \$357.6-million for the past quarter. "Our sales," says a Wellington Fund research official, "were 7% higher for the three months over last year's period. And November's total should be up, too."

• **Healthy Buying**—Despite the drop in stock prices, mutual funds, in general, still have faith in equities. In the third quarter, for example, the National Assn. of Investment Companies reports that purchases totaled \$596-million, sales only \$327-million.

But some fund managers now are switching to a more defensive position to bolster their cash reserves. Blue Ridge Mutual Fund says it has increased its liquid reserves from 5.7% to 10.1% of net assets by swelling its cash holdings and reducing its common stock portfolio. Johnston Mutual Fund reports it has increased its reserve position to 9.7% from 2.9% of net assets, while decreasing the proportion of its common stock holdings to 58.6% from 66.5%.

• **Propitious Time**—Many trusts scorn this cautious approach. "The bear market," says one fund manager, "is the time to make a killing. Long-term investors and mutual funds can profit by picking out undervalued stocks right now while the short-term speculator is out of the market."

This selective buying attitude is especially popular among the growth funds. It shows up in the decline of holdings of cash, governments, and short-term bonds by the open-end trusts. At the end of September, these holdings totaled \$529-million. At the end of October, they were down to \$509-million. One fund official admits his company has switched tack recently: "We're now buying commons aggressively, trying to pick up some of the missiles and high energy fuel stocks. They might be priced higher than we like them, but they're likely to be the money makers of the future."

• **Various Goals**—How well the funds perform in a declining market, even with their steady intake of fresh cash, depends on their basic policy aims. Mutual funds run the gamut: Some limit their portfolios to common stocks; others have a more balanced list, composed of commons, bonds, and preferreds. Some aim for income, others for growth. Some specialize in a single industry; a few even restrict themselves to a geographic location.

Within this framework, some mutual funds suffer more than others during a market break. The growth funds,

for example, which perform spectacularly when the market goes on a tear, have been particularly hard hit. Energy Fund, Inc., specializing in electrical, chemical, and atomic fields, slipped from \$141 a share on Oct. 4 to \$128.75 on Nov. 18. Another example is Growth Industry Shares, which dropped from \$14.75 on Sept. 5 to \$12.78 on Nov. 19. However, the more balanced funds have shown greater resistance.

It's obviously too soon to tell what role the mutual funds will play in the months ahead. But it's clear that they should be watched carefully as a barometer of small investor psychology, if nothing else.

THE MARKETS BRIEFS

The dramatic drop in the Federal Reserve's discount rate was generally ignored this week by the commodity markets. Most commodity prices continued to show the softness that has characterized their movement over the past year. One exception is cocoa, which soared on fears of a short crop. Cocoa futures in New York rose above 40¢ a lb. for the first time since 1955.

The bearish cast of speculators shows up in the big rise in short-interest holdings on the New York Stock Exchange. Short-interest totaled 3.3-million shares on Nov. 15, a rise of 747,000 in a month and the largest short position since March, 1932.

American Telephone & Telegraph Co. this week announced a special meeting of stockholders to authorize a \$720-million issue of convertible debentures to be sold to stockholders and employees. This is the unique and perennial route that AT&T uses for financing. The new issue will undoubtedly gain stockholder approval.

The Treasury is attempting to stop the "free riding" by speculators that it has met in its financing operations. In its latest offerings, it reserved the right to "make different percentage allotments to various classes of subscribers." This is interpreted to mean it will favor institutional investors and cut down on the allotments to in-and-out subscribers.

A graphic illustration of what the change in Fed policy means to borrowers is evident in the prices that two telephone companies paid on comparable long-term bonds. In October, Southwestern Bell Telephone Co. paid 4.74% on its triple-A debentures. This week, Michigan Bell Telephone Co., a similarly rated outfit, paid 4.69% on its bonds.



BENDIX FACTORY-NEW REPLACEMENT BRAKE SHOES ASSURE YOU NEW-CAR BRAKING PERFORMANCE!

Not enough people buy "brake jobs" as they do life insurance, but they should because their lives are involved. Many folks—believe it or not—are guided by price alone, and the cheaper the cost, the bigger the bargain they believe they have engineered!

This alarming situation obviously exists because people cannot actually *see* the difference between quality and cheap material. But there is a vast difference which manifests itself not to the naked eye, but in the way brake lining reacts to the tremendous heat generated when you make a

quick stop. Quality material stands up under heat. Cheap lining breaks down, fades out, causes accidents.

For safety's sake, buy by name brand. For example, if you specify Bendix* Factory-New Brake Shoes the next time your car needs a brake job, you cannot possibly go wrong. They are brand-new brake shoes lined with the exact type of brake lining your car manufacturer put on the car when it was new. So you know you can absolutely depend on them.

But whether you buy these factory-new brake shoes or reline your present

shoes with quality Bendix* brake lining, you will get the best money can buy. Since 1927 Bendix has helped make automobiles safer through better brakes—129 million of them. We designed the four-wheel braking system used on most cars today. We invented the popular Bendix* power brakes now used widely on cars and trucks. And our quality Bendix brake lining goes on more new vehicles than any other make. So it pays to specify our name for every braking requirement.

*REG. U. S. PAT. OFF.

A thousand products



a million ideas



Flag-raising day at
another great new
Olin Aluminum plant

Cradled in the heart of the Ohio River Valley, this expansive industrial giant is about to spring to life.

Ultra-modern from the ground up, this huge new Olin Aluminum Sheet Mill within a few short months will add its production to the vigorous mainstream of quality Aluminum flowing to the nation from four Olin Aluminum plants.

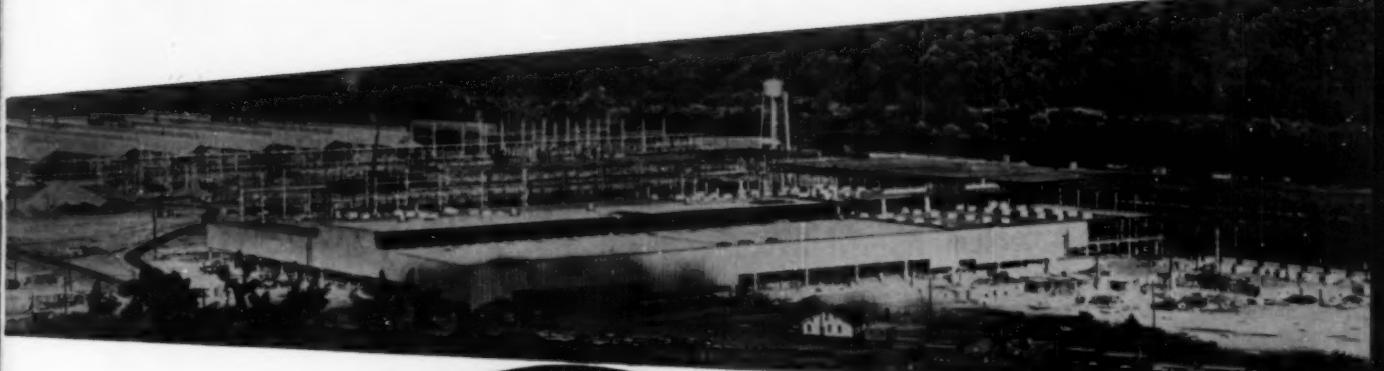
Flag-raising day at this giant new mill will mark an important new chapter in the exciting 22-month growth of Olin Aluminum. New ore ships, rolling mills, extrusion plants and wire and cable mills are already in operation or under construction. With these modern, fully-integrated facilities, Olin Aluminum is right now on the way to an initial annual volume of 340 million pounds of quality Aluminum. And that is only the beginning.

This new Aluminum will be custom-tailored to your specifications. And the unique standards of quality and service by which it will be produced and delivered to you will help you simplify your manufacturing procedures and achieve maximum efficient production from each pound you use.

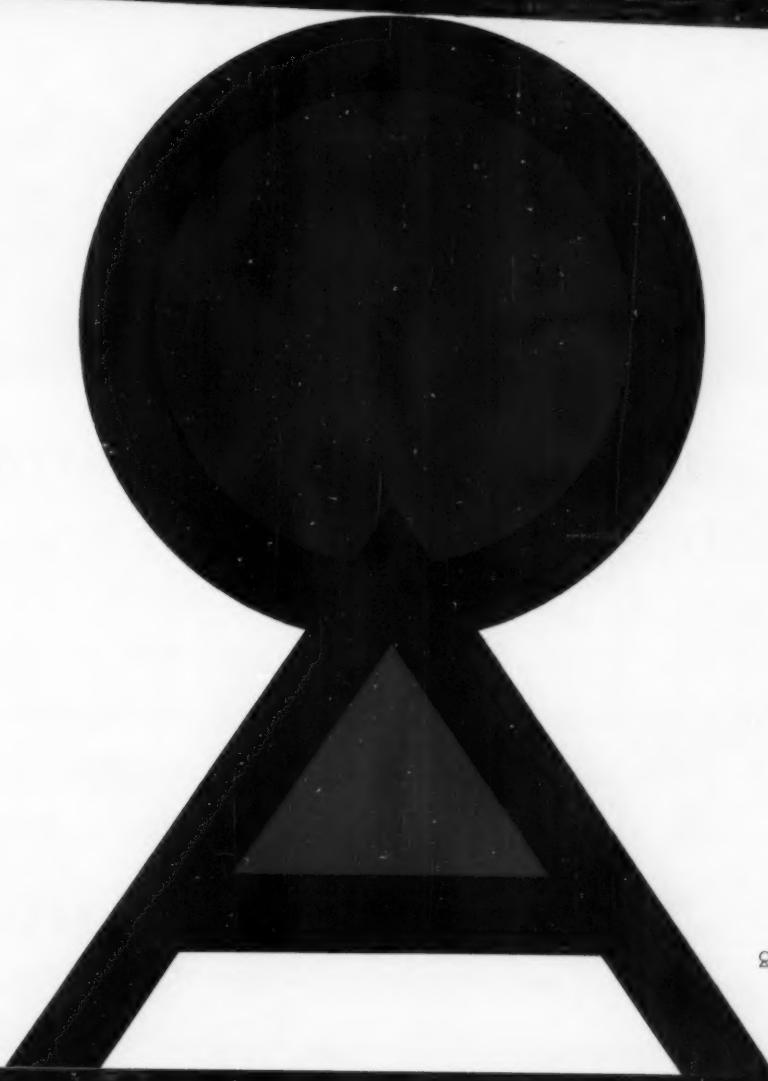
If this is the kind of quality and service you have long been looking for, write now for product availabilities to our new permanent sales headquarters: Aluminum Division—Sales, Olin Mathieson Chemical Corporation, 400 Park Avenue, New York 22, New York.

OLIN
ALUMINUM

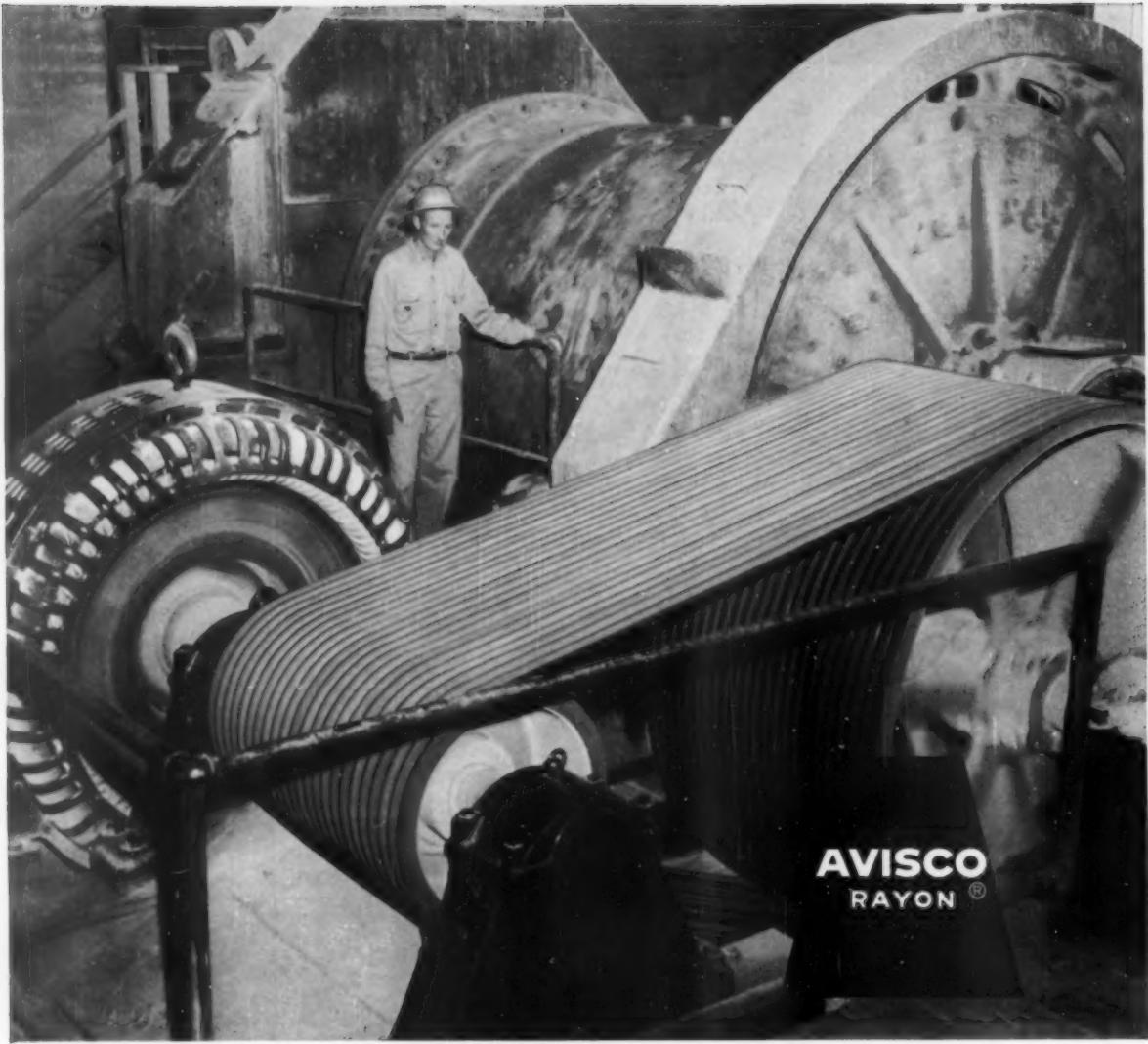
® Symbol of new Standards of Quality and Service in the Aluminum Industry



Giant



© AND "OLIN ALUMINUM" ARE TRADEMARKS



Six years of continuous operation, without losing an hour. They're B. F. Goodrich Multi-V belts, with Avisco rayon as tough reinforcing "muscle," and they promise to last many more years. This performance since 1951, under conditions requiring greatest strength, flexibility and freedom from elongation, may suggest an application in your business. And remember, Avisco rayon gives greater strength per dollar than any other reinforcing material.

American Viscose Corporation

350 FIFTH AVENUE, NEW YORK 1, NEW YORK

PERSONAL BUSINESS

BUSINESS WEEK
NOV. 23, 1957



Don't be fooled by the rumor that domestic workers are a vanishing breed. Actually, there are over 2-million household workers in the U. S. today—about 50% more than a few years ago—and employment agencies are booming. On the other side of the ledger, more people want and can afford household help of all kinds (experienced or not) and demand is outstripping supply.

The truth is, there's no easy way today to get good domestics. Many people, trying to beat the tight market, are importing help from abroad—but even this isn't easy. If you've been considering trying this, here are some tips the top agencies give:

- Immigration quotas are the main problem. After you select a maid (usually through an employment agency that specializes in bringing people to the U. S.) you must wait from three to 18 months for her to get a visa. Right now, countries with the largest quotas (and least waiting time) are the British Isles and Ireland (3-4 month average), and Germany (4-6 months). Quotas for other European countries are much tighter—from 9 to 18 months—and those for Asia and the West Indies are next to impossible.

- A maid brought to the U. S. in this way is screened, of course, by the employment agency for general character references, but you won't meet her until she arrives. However, you might ask friends who live abroad to interview prospects for you, looking particularly for someone who has already applied for a visa.

- Before the domestic can get into this country, you must file an affidavit of support with the U. S. Immigration Service. She will probably sign a one-year contract to work for you, but if for some reason you (or she) are dissatisfied, the agency usually can place her elsewhere before the contract's expiration.

- Domestics coming from abroad today are averaging younger than in previous years, and are not necessarily experienced in the work. This, coupled with possible language difficulties and the difference in mode of living, means you should figure it may take several months to adjust.

- Foreign domestics generally will start at around \$125 per month, plus room and board—somewhat lower than the U. S. rate. But if they are experienced, you can expect to start them higher or increase their salary shortly after arrival. In addition, you must pay their transportation to the U. S. in advance (around \$265-\$300). They will return this, in equal installments, from their first five months salary, but you will be expected to give them the equivalent of their passage as a bonus at the end of their first year. Incidentally, one year is a good average stay on one job these days, whether you get domestics here or abroad.

Here's a summary of the things that domestics like (or dislike) and what they expect:

- Their complaints—Top agencies report the current, most general complaints of servants are: (1) long hours (more than 7-8 per day), (2) too many late dinner parties, (3) no regular rest periods (many expect 2 hours per day minimum), (4) not enough time off (1½-2 days per week minimum), and (5) lack of appreciation or recognition for doing a good job.

- What they expect—By and large most of today's household help prefer to do one specialized job (chambermaid, cook, nursemaid), and they expect other servants to be hired for such jobs as heavy cleaning, baby sitting, etc. And as specialists they expect a high salary. Here's a roundup of the monthly pay average for top live-in domestics in the New York area: general domestic, \$195; mother's helper, \$200; nursemaid, \$250; cook-houseworker,

PERSONAL BUSINESS (Continued)

BUSINESS WEEK
NOV. 23, 1957

\$225; cook, \$250-\$300; chambermaid-waitress, \$215; butler, \$300; cook-butler (couple), \$500-\$600; and cook-gardener (couple), \$450-\$500. (If a private house and utilities are provided, salaries may be lower.)

• "Fringe" benefits—Here are some of the things more employers are providing these days to keep good domestics: (1) transportation to and from home (if they live out) with generous stopover time for shopping—or use of a family car, (2) early meals at least once per week in addition to regular days off, (3) complete payment of their social security tax, (4) health insurance, (5) paid vacation—two weeks or more, and (6) birthday and Christmas presents. They can get a private room, radio, and television almost anywhere.

—•—

As you wrap your Christmas gifts for friends abroad, keep in mind that every country has an official list of do's and don'ts governing the importation of gift packages. For instance, the Netherlands has a taboo on more than 1,000 cigarettes to a package; Spain permits no tobacco gifts from abroad; Switzerland subjects a sizable list of food products to import licensing—Christmas boxes included.

There are also rules dealing with how you send your packages. Colombia, for example, requires a lengthy declaration written in Spanish; and Argentina insists on a notarized statement that your gift has been disinfected.

Best way to avoid complications is to get a copy of the foreign country's regulations from the U. S. Dept. of Commerce Field Office in your area, or from the department's Sales & Distribution Div., Washington 25, D. C. (10¢ per country). You might also ask for the leaflet "Sending Gift Packages to Foreign Countries—Summary of the U. S. Export Regulations" (10¢).

—•—

Atlantic ship lines have doused the rumor that passenger rates to Europe will go up next year. Shipping men say rates will stay at 1957 levels, except for some slight increases (averaging \$5) during the cold weather "off" seasons.

However, there are some changes in baggage and vehicle freight on Atlantic crossings, most of it good news to travelers. One new rule gives children up to 12 years, sailing on half-fare tickets, the adult baggage allowance of 25 cu. ft. or 275 lb.—twice as much as they had before.

And a revised rule governing powered vehicles (effective Jan. 1) gives you advantage of the low round-trip freight rate for shipping a car to and from Europe—even if you ship a different car home. This means you can go over with an old auto, sell it if possible, bring back a new one, and still get the lower round-trip rate, saving you around \$200.

Another break benefits motor scooter and motorcycle fans. Formerly when you shipped one of these vehicles, you paid a 1,500-lb. rate even though actual weight was much lower. Starting next year, the fees will begin at 100 lb. (\$30) and save you up to \$270.

—•—

Executive chef: One way to have rotund friends is to work up a repertoire of some of the dishes served at Sardi's in New York. To investigate, see *Curtain Up at Sardi's* (Random House, \$3.95), which gives the restaurant's top 300 recipes.

Contents copyrighted under the general copyright on the Nov. 23, 1957, issue—Business Week, 380 W. 42nd St., New York, N. Y.



MATCHLESS STEAM HOSE



Keeping a raging killer under control

Scalding steam is a powerful work-saving servant—but let it get out of hand and it can mean sudden death. Yet this valuable, though unruly demon is tamed by a hose that is *absolutely safe*—U. S. Matchless® Steam Hose. This hose cannot burst—even with steam pressures up to 200 pounds. After long, safe service—far longer than ordinary steam hose—the wall structure, instead of bursting, allows a trickle of steam to merely *leak* through—reducing the pressure and giving plenty of notice that a replacement is finally needed. Safety councils give U. S. Matchless their full approval.

For such a husky hose, U. S. Matchless is extremely flexible and easy to handle. It is used in steam lines in every kind of industry. Some other important uses are for fire protection in oil refineries, thawing out tank cars, steaming out drums in chemical, soap and paper plants and paper mill black liquor recovery systems. U. S. Matchless Steam Hose is obtainable at any of the 28 "U. S." District Sales Offices, at selected distributors, or by writing United States Rubber, Mechanical Goods Division, Rockefeller Center, New York 20, N. Y.

In Canada, Dominion Rubber Co., Ltd.

Mechanical Goods Division



United States Rubber

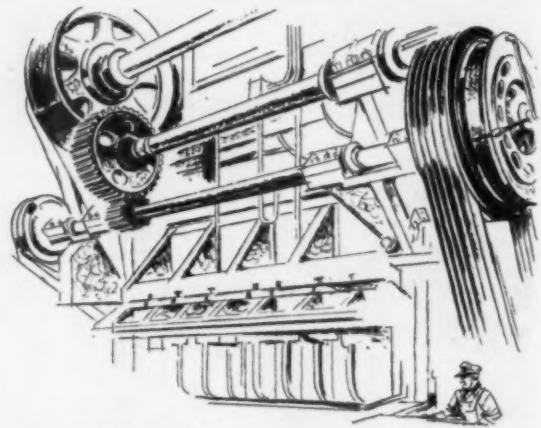
See things you never saw before. Visit U. S. Rubber's New Exhibit Hall, Rockefeller Center, N. Y.

W is for WHEELS

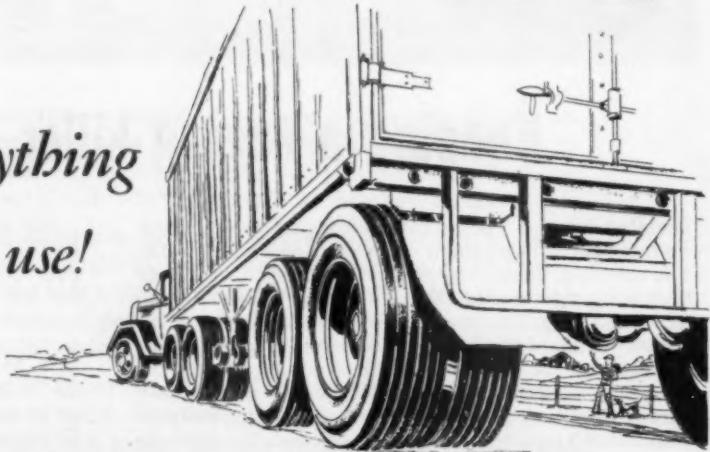
that help to grow things,



that help to make things,



*that bring you everything
you eat, wear, or use!*



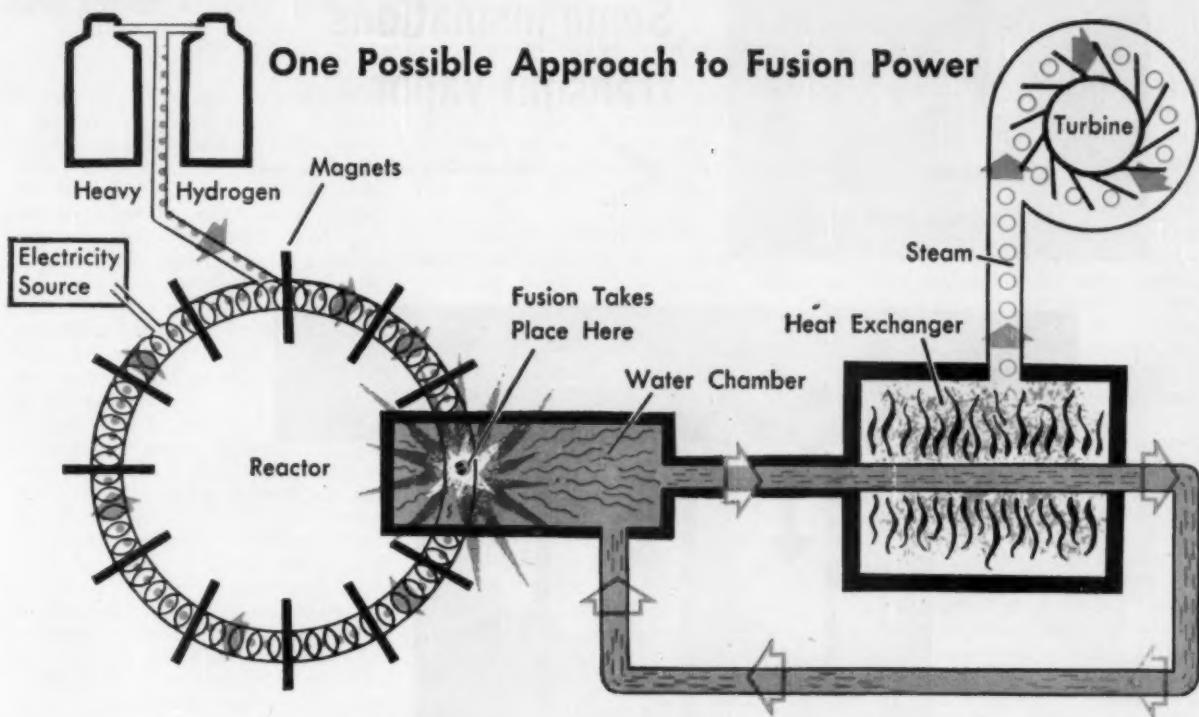
AMERICAN TRUCKING INDUSTRY

American Trucking Associations, Inc., Washington 6, D. C.

THE WHEELS THAT GO EVERYWHERE



RESEARCH



H-Bomb's Harness Nearly Ready

U. S. progress in taming H-bomb's power for peaceful uses is strictly under wraps—yet through the folds you can glimpse a controlled fusion reaction only some three years off. But it's still a long, long road to economic fusion power.

U. S. efforts to harness the force of the hydrogen bomb for peaceful uses, vastly increased during recent months, are nearing the payoff stage.

You cannot get official confirmation of this because the government, which is doing the major portion of the job, has kept its activities under strict secrecy wraps. But it is clear that giant steps have been made in our push to control the fusion reaction. You can see it in the quiet confidence of people working on nongovernmental fusion projects, in the sudden interest of informed experts in other branches of atomic development.

• **Timetable**—All this seems to stem from some solid achievements in U. S. laboratories. Probably none of these alone stands up as a technical breakthrough of the order achieved during the development of the hydrogen bomb. But taken together, they add up to an advance that seems to make realistic the following timetable for future development.

• Controlled fusion on a self-

sustaining basis—a chain reaction—is only about three years away. Equipment to demonstrate this process now is being built. It will be an experimental device, will not produce electric power.

• The pioneer plant to produce power from controlled fusion will be ready four to seven years later—between 1964 and 1967. This will be a pilot plant, designed solely to demonstrate a means of obtaining power from this process. There will be no effort to get power from this model at prices competitive with other power sources.

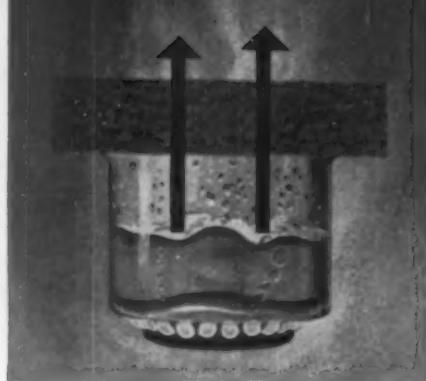
• Economic power from controlled fusion, if it comes at all, probably still is 25 years or more in the future. Just as in the case of atomic, or fission, power—produced by splitting atoms—there appear to be several promising approaches to fusion power—obtained by causing hydrogen atoms to fuse together to form helium atoms. All these approaches are likely to be tested on the pilot plant scale. All involve enormous engineering problems.

Meanwhile, fission power should become competitive with conventional sources even in the U. S. within 10 years—by 1967. Right now it appears that power from controlled fusion will be supplementary. For years to come, it is likely to be economic only in huge installations, with capacities of 500 megawatts—enough to supply a city of 300,000 to 400,000 people, about the size of Dayton, Ohio—or even more.

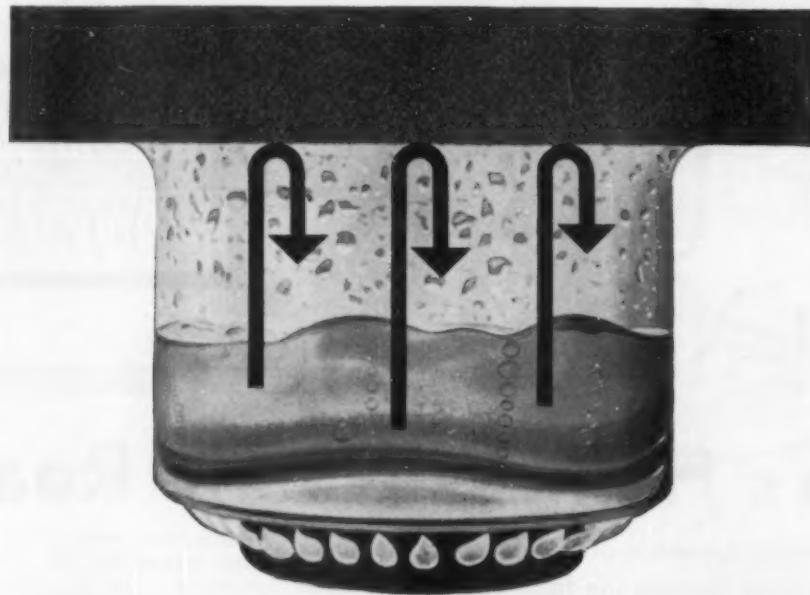
• **Where We Stand**—All this means we are almost certainly ahead of the British, who have been forced to restrict their research on fusion. And we are probably somewhat further along in this field than the Russians. But we won't know for sure until next year's Second International Conference on Atomic Energy for Peaceful Uses at Geneva, Switzerland. Each of the three countries is holding up official reports on its progress in hopes of making the best showing at Geneva.

I. Behind the Push

There's little doubt that—psychologically, at least—Russia's Sputniks have put some zip into this country's drive to harness the fusion reaction. In the past two weeks, manufacturers have been urged to speed up deliveries of research equipment for the laboratories



Some insulations
transmit vapor



FOAMGLAS® INSULATION

is vapor-proof...

needs no separate vapor barrier!

—and inorganic FOAMGLAS is dimensionally stable . . . waterproof . . . easily carries loads of 7 tons per sq. ft. . . . can't burn . . . repels all vermin . . . easy, economical to handle and install. Write for detailed literature.



©Pittsburgh Corning Corporation
Dept. F-117, One Gateway Center, Pittsburgh 22, Pa.
In Canada: 57 Bloor Street West, Toronto, Ontario

"... even the fact that this will probably be the world's first fusion reactor has only been hinted ..."

FUSION POWER starts on p. 165

that are already doing work in this field.

Recent reports of British successes in achieving momentary fusion reactions (BW-Sep. 28 '57, p42), undoubtedly have had a similar, though probably less dramatic, effect. U.S. nuclear scientists, who previously had performed similar experiments on a smaller scale and with less impressive results, generally spoke of the British work as interesting but not particularly exciting. Now the word is that they will attempt to duplicate—or improve upon—the British tests.

Next year's international atomic conference at Geneva certainly has had scientists in the U.S., United Kingdom, and U.S.S.R. working overtime on controlled fusion. U.S. Atomic Energy Commission officials, including Chmn. Lewis L. Strauss, probably still deplore inferences that the Geneva meetings—the first was in 1955—are a sort of scientific version of the Olympic games. But the fact is that all participants are expected to discuss their most advanced projects at Geneva, and comparisons will be drawn that will reflect upon national prestige.

• **Tantalizing Hints**—There are indications that there is more to the present vigor of the U.S. fusion development program than the competitive urge. Dribbles of information from the research groups working on fusion for AEC, never definitive, still manage to hint at real progress. Not the kind of progress you get with an invention that dramatically solves one or more problems. But the kind of day-to-day chipping away process that adds up to a more tedious victory in the laboratory.

This kind of progress can be expected in view of the fact that some of the best brains available are at work harnessing fusion. To name a few, the research teams include Edward Teller and Luis W. Alvarez of the University of California Radiation Laboratory, James L. Tuck of Los Alamos Scientific Laboratory, and Prof. Lyman Spitzer, Jr., of Princeton University.

• **Model on the Way**—One solid fact has leaked out about the work of one of these groups. The Model C Stellarator (from stellar and generator) being built now for the Princeton group is designed to produce controlled fusion on a continuous basis—a chain reaction. Small wonder some U.S. scientists yawned at reports that the British had produced a fusion reaction for an interval of some thousandths of a second.

The Stellarator is being designed and fabricated by Allis-Chalmers Mfg. Co. and Radio Corp. of America. When

the machine was first approved by AEC, Chmn. Strauss predicted it would be completed and in operation in late 1960 or 1961. Persistent rumors say this schedule has been advanced about a year.

• **Design for a Plant**—Word also has leaked out that some top nuclear engineers are giving serious thought and effort to the design of possible fusion power plants. A surprise to many technical people is a report that serious consideration is being given to a plant employing a heat removal process similar to that used in fission power plants.

The drawing on page 165 indicates a possible manner in which this might be accomplished. Hot gases (heavy isotopes of hydrogen) would be fed into a circular discharge tube. Windings around the tube would induce a magnetic field inside the tube and keep the gas in the center. Other magnets surrounding the tube would provide additional control. By manipulating the magnetic fields, the gases would be further heated to temperatures in the millions of degrees.

When the heat attains the "ignition temperature"—400-million degrees for a deuterium plasma, according to AEC—the gas will be generating heat faster than it is dissipating it in the form of radiation. Only then can sustained fusion—a chain reaction—be maintained. Theoretically, at least, the point in the discharge tube where fusion occurs could be predetermined.

Surrounding this segment would be a chamber containing water. Neutrons produced in the fusion reaction would be absorbed by the water, and would heat it. The water would be circulated to a more or less conventional heat exchanger to provide steam for a turbine.

• **Shock**—That any such approach is getting serious consideration shocks many experts who have accepted as one of the big advantages of controlled fusion the probability that it will provide electricity directly from the reactor. This seems logical because fusion reactions release enormous amounts of energy in the form of charged particles.

One top technical man guesses that the engineers have given up only temporarily on direct electricity production.

"The energy certainly will be there for the tapping, but the tapping will take a lot of doing," he explains. "We already know how to use neutrons to produce heat, so we could do that relatively easily. That would not mean we had given up on getting the energy charges out of the apparatus—only that we will do something easier

while we are learning the more difficult technique."

II. Promise—and Problems

The new Stellarator—it is called the Model C because the Princeton scientists have built small, experimental machines of similar design—is one of the most closely guarded secrets in the whole hush-hush government program to develop controlled fusion.

Even the fact that it will be this country's—and probably the world's—first fusion reactor has only been hinted. As such it will be comparable to the first fission reactor built by Enrico Fermi beneath the University of Chicago stadium in 1942. Like Fermi's reactor, it will simply prove that man can control a vast new force.

• **Long Road Ahead**—Putting this new force to work for man's benefit probably will take at least as long as, and be even more difficult than, the development of fission energy to the point where it could produce useful power.

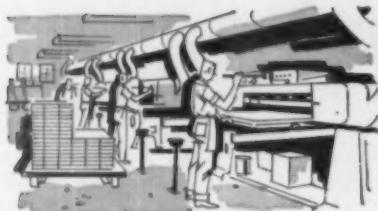
Both U.S. and Russian scientists are seeking a method of producing fusion without tremendous heat. Working with giant atom smashers, such as the University of California Radiation Lab's Bevatron (BW-May 4 '57, p94), they have found new subatomic particles called mesons. Certain mesons appear to act as catalysts in setting off the fusion process.

But these mesons are so short-lived they give no promise of providing a worthwhile source of fusion. Instead, the scientists are looking for a longer-lived particle that will do the same job.

• **What Happens**—In this country and abroad the major effort is to heat hydrogen to temperatures in the millions of degrees. At such heat the nuclei of the atom move at speeds violent enough to overcome the electrical force that normally keeps them apart. Deuterium (double hydrogen) nuclei combine, or fuse, to form tritium (triple hydrogen) or helium, a heavier gas.

But the newly manufactured element always is lighter than the two nuclei that formed it. The rest of the weight goes off in the form of a subatomic particle—a neutron or a proton—and a tremendous energy charge.

• **What Still Is Needed**—There is some difference of scientific opinion as to the temperature at which fusion can be attained. The British believe they have fused deuterium and tritium nuclei at 5-million degrees Centigrade. This is so far below the temperatures required to obtain a chain reaction—hundreds of millions of degrees—that the feat was of scientific significance only. Similar experiments announced by the U.S. and Russia failed to reach comparable temperatures, and the temperatures were maintained for shorter periods—



to control **DUST** or
FUMES efficiently...

contact

KIRK & BLUM

• DESIGN • FABRICATION
• INSTALLATION

KIRK & BLUM MFG. CO.
3114 Forrer St., Cincinnati 9, Ohio
50 Years of Service

life is
"spicier"
thanks to trucks!



In a typical state, Michigan, more than half the tomato crop and three-fourths of the peach crop move to market by truck.

To both the farmers and the consumers of our nation as a whole, the trucking industry is next in importance to the land itself.

prepared in the public interest by 
Reo Division, The White Motor Company
in behalf of  American Trucking Industry

a matter of millionths of a second as compared to thousandths.

The British technique was not new—scientists at Los Alamos developed it five years ago. It consists of heating a plasma of gaseous hydrogen. The plasma is contained by a magnetic field of enormous force—any conventional type of container would be vaporized.

The plasma is held in the center of a large discharge tube by an induced current through the tube. Since the gas also has an electrical charge, it adheres to, and is "pinched" by the induced current, and so stays away from the walls of the tube. Trouble with this so-called "pinch effect" is that it cannot be sustained for long periods with any presently existing equipment. Scientists believe more powerful magnetic fields will maintain the pinch sufficiently long for the production of significant numbers of fusion reactions.

This, of course, means heavy capital costs for equipment, and a large input of electricity. The scientists believe sufficiently large equipment can be built, and enough energy removed from the fusion process, to make these expenditures worthwhile. They have yet to prove this theory, however, and even before they do that, they have still to produce a sustained, or chain, reaction.

• **In the Works**—The Atomic Energy Commission has hinted that it is working on at least three different methods of containing a hot gas in magnetic fields and getting it to extremely high temperatures. It has even let slip that one approach involves the use of shock waves to raise the temperature. AEC spokesmen refuse to discuss details of any effort other than the pinch method, and they don't appear hopeful about that.

This seems to infer that the Stellarator employs one of the newer hush-hush techniques. At any rate, the Princeton machine will be very large and expensive. There have been hints that it may require condensers as large as a large room to supply input power. The cost is rumored to be "in the millions of dollars."

AEC boss Strauss admits he thinks this investment will "pay off." Industry experts and nongovernment scientists interpret the "payoff" as the achievement of a chain reaction.

III. Industry's Role

You can see this in the intense interest electric equipment manufacturers and other companies involved in atomic energy projects have exhibited over the past year. General Electric Co., for one, has revealed that it has its own fusion-power research program, financed with its own funds and without the support of government experimental projects. The General Atomics

Div. of General Dynamics Corp. has a large proportion of the staff in its new research lab near San Diego, Calif., working on fusion power.

Several electrical and electronic equipment manufacturers have announced they have AEC contracts to produce gear for fusion products. Many others have similar contracts they are not talking about.

• **False Hopes**—The excitement over controlled fusion and the possibility of hydrogen as a power source has been another blow to the already depressed fission power industry (BW—Nov. 9 '57, p170). People supplying atomic power equipment know that fusion power is far from just around the corner.

But investors who buy utility securities are restless. In Wall Street you can get bets that no more atomic power plants will be built because "cheap hydrogen power" is in the offing.

Nothing could be further from fact. A better bet—but not much better—is that economic power will never be produced from hydrogen fuel.

• **But Solid Reasons**—It's not much better because there are solid reasons why men will bend every effort to harness this new energy source. For one thing, there is enough deuterium in the oceans to meet world power needs for centuries.

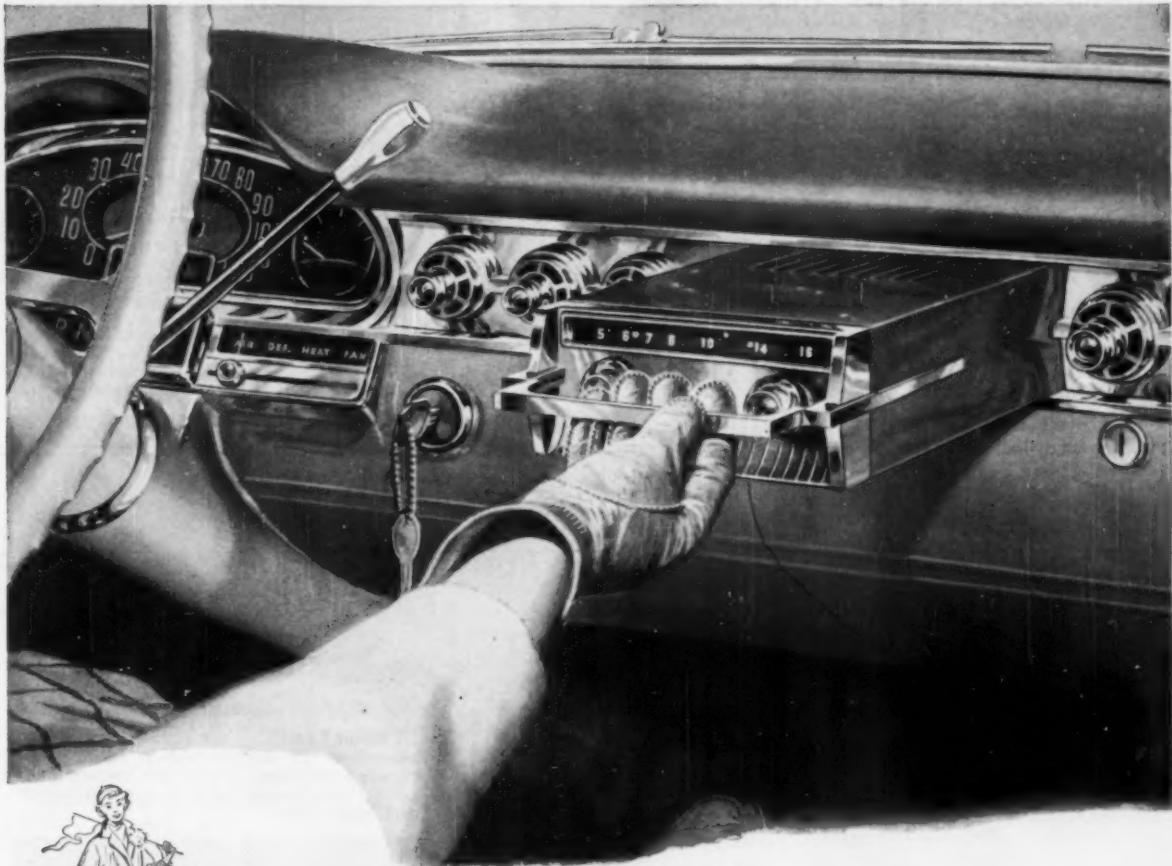
If we can use deuterium without costly tritium, the fuel will be cheap. And if the actual reactor is expensive, it will not require the kind of costly shielding required for fission reactors. The radiation hazard will be marginal. Finally, it should eventually be possible to take energy directly from the reactor and eliminate the need for heat exchangers, turbines, and generators.

• **Years of Work**—But it is 15 years since Fermi completed the first fission reactor. We still do not have economic power from fission, though we finally are close to that goal.

So far, the work on fusion resembles earlier efforts to harness fission in one major respect. Both require research and engineering into brand new technological regions. That kind of developmental work always is difficult and time-consuming. In a decade, when fission power is becoming competitive with conventional sources, we will be just learning the first economic facts of life about fusion power.

• **Economics**—Right now it appears that the huge size needed to make fusion power plants competitive will make them look attractive only to those U.S. utilities with a number of obsolete conventional plants.

Yet it's obvious that such companies as General Electric and General Dynamics, which are working on both fission and fusion power, figure both will be needed and money is to be made on both. **END**



Power for the
New Portable Car Radio
...Mallory Mercury Batteries

New feature of some 1958 cars is a unique, multi-purpose, portable radio that slips easily off the dash to go wherever you go. It's powered by Mallory Mercury Batteries.

THIS new radio leads a double life! On the dashboard it operates like a regular car radio, powered by the car battery. Take it out of the dash and you have a handy portable for all outdoor activities ... or as an extra "cordless" set in your home.

Two distinctive characteristics make Mallory Mercury Batteries the logical, off-the-dash power supply for the versatile radio.

Unlike conventional batteries, they show little deterioration when not in use. They also last far longer in service ... and they are not affected by the high temperatures found behind the dashboard. Thus, the nuisance of frequent battery changes is eliminated.

The miniature size, high power and constant output of Mallory-developed mercury batteries have helped pave the way for many exciting products of the

electronic age—inconspicuous hearing aids, pocket recorders, midget radios, guided missile control equipment and others. These batteries, moreover, are part of a complete family of battery systems which Mallory has developed for commercial and military uses.

Putting extra values in tomorrow's products is an important contribution of the engineering skills in the fields of electronics, electrochemistry and specialized metallurgy that you find at Mallory ... the company at home in tomorrow.



Does your present source have an ax to grind in favor of one or two basic power transmission drives?

Only Morse offers all four of these basic drives, plus a complete line of power transmission products

Basic Drives: Roller Chain, Silent Chain, Hy-Vo® Drives, and "Timing"® Belt.

Chain: High-Endurance (H-E), 8-series (Super Strength), Double-Pitch, Conveyor, Implement, and Attachment; AL, BL, Cable Chain, and Rollerless Lift Chain; Industrial Standard and 3/16" Silent Chain.

Stock Sprockets: Plain Bore, Finished Bore, Taper-Lock—also made to order.

"Timing" Belt Sprockets: Plain Bore, Taper-Lock, Q.D.—also made to order.

Couplings: Flexible Roller Chain

Couplings, Flexible Silent Chain Couplings, Morflex Couplings, Morflex Radial Couplings, and Marine Couplings.

Driveshafts: Morflex and Radial Driveshafts.

Clutches: Cam (Over-Running, Back-Stopping, Indexing); Pullmore; Over-Center, Centrifugal.

Speed Reducers: Eberhardt-Denver "RW" powerGear® Reducers; Gear Motors; "L" Worm Gear Reducers; "VX" and "DVX" Conveyor Drives; Miter Boxes; Helical Reducers.

Torque Limiters.

Look for your local Morse distributor in the Yellow Pages under "Power Transmission," or write: **MORSE CHAIN COMPANY, DEPT. 3-117, ITHACA, NEW YORK.** Export Sales: Borg-Warner International, Chicago 3, Illinois.

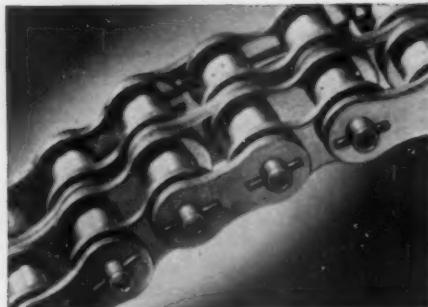
IN POWER TRANSMISSION

THE TOUGH JOBS COME TO

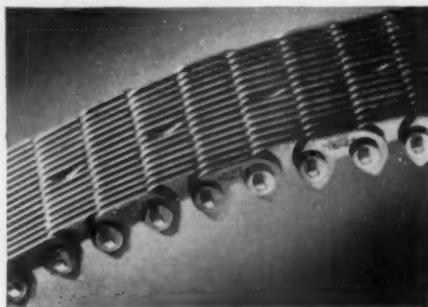
MORSE



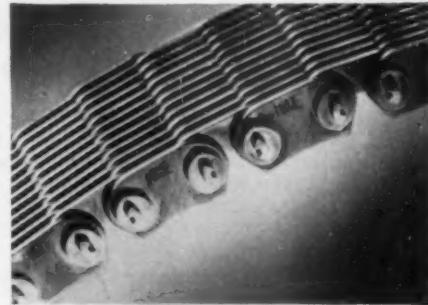
*Trademark



1. Roller Chain . . . for low- and medium-speed applications. Precision-finished—specially treated to withstand shock and fatigue. Patented Spirol Pin Fasteners.



2. Silent Chain . . . for smoother, quieter operation at higher speeds. Patented rocker joint operates with less friction and wear; runs cooler, with higher efficiency and longer life.



3. Hy-Vo Drive . . . a Morse exclusive for extremely high speeds and horsepower. Mile-a-minute speeds, up to 5,000 horsepower loads. Minimum shaft space; usually eliminates outboard bearings.



4. "Timing" Belt . . . for light weight and lubrication-free operation. Positive, efficient from 0 to 16,000 FPM, 1/1000 HP to 1,000 HP; slip- and stretch-proof for life of drive.

Sputniks—But No Tranquilizers

● That's how Russian research stacks up compared with what's going on in Western world laboratories.

● In fields where the Reds have really scored—aeronautics and guided missiles in particular—progress has been phenomenal since World War II.

● But in consumer products and medicine, they still lag far behind the Western world.

If there was any doubt in the minds of Western scientists that Russia was out to wrest world technological leadership from the U.S., that doubt was dispelled when the Soviets launched the first manmade satellite (BW—Oct. 12'57, p39).

There is plenty of evidence that Russia won't spare the horses in its pursuit of its scientific goal. From the cradle up, Russian youngsters are indoctrinated with the glories of a scientific career, and as a result the Soviet's well-oiled scientific educational program is turning out young scientists at a production line rate (BW—Nov. 16'57, p126).

● **Pampered Breed**—The Red scientist, according to one U.S. physicist, is the best paid, most pampered scientist in the world. He is a powerful class member in present-day Russia. He receives as much as ten times the salary of a Russian factory worker, and has social status almost equal to that of military and government leaders.

To permit him to engage in top level theoretical research under the best possible conditions, emphasis on party doctrine has been watered down in the laboratory. And as an added plum, the Russian scientist has perhaps greater personal freedom than any other party member.

Also, more and more Red scientists are going abroad to international scientific meetings (BW—Sep. 14'57, p30) and, in contrast with their former reticence, are becoming more aggressive in exchanging scientific data with their Western colleagues.

● **More Elbow Room**—It's obvious to any Western scientist who travels through Soviet scientific circles today, says one U.S. biochemist, that Soviet science and scientists are no longer cramped. In many cases, labs still show a dearth of chromium plate, and apparatus is sometimes antiquated. But the scientists themselves have branched out, even to the point of expressing differences of opinion. Some of their research systems may be open to criticism, but their dedication to their work is not.

"If the current rate of growth in Russian scientific research continues," Edward Teller of the University of California predicts, "Russian scientists will be the best in the world within 10 years."

● **Score Board**—At the moment, as our scientists see it, Soviet research in the past decade has been remarkably effective in some fields, rather ineffective in others. It has chalked up remarkable progress in specialized areas relating directly to the buildup of national power and military strength. In other areas, chiefly those in the field of consumer products and comfort, it has lagged well behind the West.

Take the field of nuclear research, for example. Atomic physicists in Russia already have the world's largest atom smasher (a 10-billion electron-volt job) completed, and are working on one five times bigger. American scientists came away from the Geneva Atoms-for-Peace Conference in 1955 generally impressed with the Russians' experiments with thermonuclear reactions. Today, our scientists think we're still ahead, theoretically at least. But the gap in the field of nuclear physics is closing fast.

In mathematics and low-temperature physics, the Soviets have revealed particular competence, and their work in combustion phenomena and chemical kinetics is probably the finest in the world.

● **Evidence**—The high position that the U.S.S.R. has attained in aeronautics is due to a crash program of research and development, and is clearly evidenced by the spate of new long-range planes rolling off Russian production lines. The fittings may be crude, the internal decor not up to U.S. standards, but there's no denying that the TU-104—the plane that brought the Russian U.N. delegation to the U.S. earlier this fall (BW—Sep. 14'57, p94)—is the world's only operational commercial turbojet airliner.

On the other hand, the Russians so far have not been successful in developing high-speed electronic digital computers. Their largest, the BSEM,

isn't considered a match for the latest U.S. computers. But Nesmeyanov, president of the U.S.S.R. Academy of Sciences, has singled out highspeed computer research as being an area of "fundamental importance to the Soviet Union."

● **Surge in Electronics**—It's in the development of long-range guided missiles since the end of World War II that the Russians have really scored (BW—Oct. 12'57, p39). Their progress in electronics also has astounded Western observers.

At the close of the war, the Soviets were far behind the U.S. in virtually all branches of electronics, with the possible exception of high-power radio technique. Today, the U.S.S.R. is a major factor in electronics and a potential challenger to the leadership of the U.S. Take just a few examples:

• The Soviets today are the acknowledged leader in radio astronomy, a relatively new branch of electronics.

• They have maintained their high competence in communications theory.

• They have developed impressive knowhow in thermonics and electronics.

• In the field of consumer electronics (such as television, telephone, and telegraph) they are still well behind the West. But in electronic equipment and instrumentation directly relevant to their military requirements their research equals—and in some cases excels—our own.

● **Medicine Lags**—In medicine, particularly in pharmaceutical research, the Russians are still lagging far behind most of the Western world. "Sputnik may have lit up the sky for one branch of Russian science," says one pharmaceutical executive, "but from all reports the Russians aren't doing so well in fundamental pharmaceutical research."

Recent Soviet attempts to launch their own wonder drugs have failed miserably, according to reports from behind the Iron Curtain. The trouble, according to the Russians, is largely within the Soviet medical laboratories themselves. Researchers apparently haven't been able to solve some of the basic problems involved in turning out antibiotics, synthetic endocrines, or even the more complicated vitamins. There is no mention of tranquilizers in Russian medical journals. Presumably the Soviets either have chosen not to spend precious research dollars on consumer goods, or have been unsuccessful in developing such products.

An active immunization program

SHERATON

the proudest name in HOTELS



NEW YORK: The SHERATON-ASTOR

For Direct-Line
Teletype
reservations of
any Sheraton Hotel
call the Sheraton
nearest you.



EASTERN DIV.
NEW YORK
BOSTON
WASHINGTON
PITTSBURGH
BALTIMORE
PHILADELPHIA
PROVIDENCE
SPRINGFIELD, Mass.
ALBANY
ROCHESTER
BUFFALO
SYRACUSE

MIDWESTERN DIV.
CHICAGO
DETROIT
CINCINNATI
ST. LOUIS
OMAHA
LOUISVILLE
DALLAS
Sheraton Hotel
Opened 1959
AKRON

INDIANAPOLIS
FRENCH LICK, Ind.
RAPID CITY, S. D.
SIOUX CITY, Iowa
SIOUX FALLS, S. D.
CEDAR RAPIDS, Iowa

PACIFIC DIV.
SAN FRANCISCO
LOS ANGELES
PASADENA

CANADIAN DIV.
MONTREAL
TORONTO
NIAGARA FALLS, Ont.
HAMILTON, Ont.

Thinking about locating a plant in Ohio, Indiana or Illinois? Then check Nickel Plate's survey service.

NKP has information on available sites—plus facts on utilities, taxes, transportation and other data you'll need to know. In fact, every NKP survey is tailor-made to *your* requirements.

Let NKP know those requirements. Please contact M. H. Markworth, Nickel Plate Road, 1402 Terminal Tower, Cleveland 1, Ohio. MAin 1-9000.

I had to find a plant site...
NKP SURVEYS MADE MY JOB EASIER



against such diseases as polio, smallpox, whooping cough, scarlet fever, and diphtheria simply doesn't exist. There seems to be equal disinterest in research on such programs as finding the cause or causes of cancer. Experts say that there has been practically no research in the field of cancer cures.

• **Line of Communications**—In the matter of disseminating scientific information, however, the Russians are way in front of the U.S. Without question, Russia is the largest dealer in translated scientific texts in the world today. This means that the Russian scientist has the best access to what his counterparts throughout the world are doing.

To provide this access, Russia maintains a permanent staff of 1,800 translators, abstractors, and publishers. This full-time staff is supplemented by 13,000 scientists who act as part-time translators and abstractors in specialized fields. The All-Union Institute of Scientific & Technological Information, housed in a drab building in Moscow, is headquarters for this activity. Operated by the Academy of Science, it was established only three years ago, but already it is operating so smoothly that vital scientific information is funneled to all laboratories that might be interested only two weeks (on the average) after it has been received in Moscow.

• **Poser**—Western observers can't help being impressed by this and other evidence of Soviet scientific research progress. But the marvel is how the Russians got rolling so fast in so short a time.

In 1918, at the time of the Russian Revolution—less than four decades ago—the great mass of the Russians were illiterate. Some remote national groups that later were welded into the U.S.S.R. even had no written language at all, let alone any semblance of a scientific bent. How, these Western experts wonder, could any country move from such a position to one in which research is being successfully pushed across the alphabet of scientific endeavor—from atomic energy to zoology?

The answer comes hard, but it is not impossible to dig out. Russian scientific research, although scanty, was not completely lacking before World War I. There had always been a nucleus of pure and applied scientists, notably mathematicians, in Russia. Building on this nucleus, supplementing its forces in certain areas with German-imported technicians, and building up the position of the research scientist both ruble-wise and socially, the Russians have been able to put real weight behind their drive.

"In Russia today," says one U.S. chemical engineer, "if a scientist has

336 Thanksgivings ago

Distance meant danger . . .

Half a mile from the sheltering stockade was
half a world away.

Today, Houston, Chicago or Manila are as close as
your telephone. What other man-made miracle unites us
so strongly? Or so effectively? Or so economically?

The slim, far flung wires of your telephone weave a web
that holds the world together.



*Can't be home for Thanksgiving?
Telephone. And call early to make sure
your call gets through quickly.*



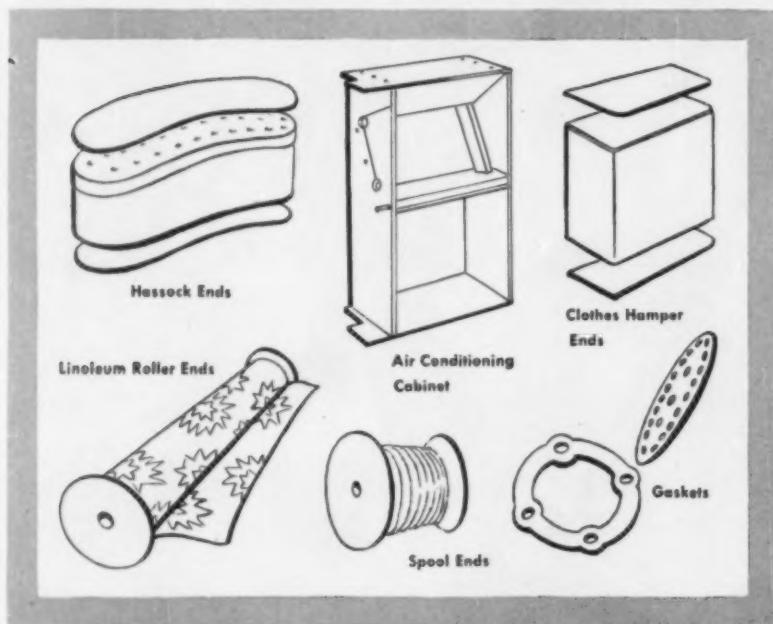
GENERAL TELEPHONE SYSTEM

ONE OF AMERICA'S GREAT COMMUNICATIONS SYSTEMS • 280 MADISON AVENUE, NEW YORK, N. Y.

UPSON ENGINEERED

FIBERBOARD

at work cutting costs everywhere!



This amazing material plus Upson's superior cutting service for countless parts and cut-outs can bring undreamt of economies. Upson Engineered Fiberboard is an "in-between board" not a hard or soft insulation board. Composed of 94% wood fibers laminated for great strength, it's tough, resilient with superior finishing and sound deadening qualities. Our Fiberboard Engineering service includes manufacturing and precision cutting to specified shapes. We punch it, bevel it, die cut it, waterproof it and apply special finishes. We deliver the finished part ready for production. Choice of lengths, widths, thicknesses and surface textures. Our specialized engineers are always available for consultation. Let them help solve your problem. Write, wire or send coupon for consultation service, free idea booklet and sample kit.



UPSON

94% Wood Fibers Laminated for Great Strength

The Upson Company • 2311 Upson Point, Lockport, N.Y.

Send me free booklet and sample kit

I wish to consult with an Upson Engineer

NAME _____

POSITION _____

NAME OF COMPANY _____

STREET _____

CITY _____

STATE _____



an idea for a particular research project, he presents it to his scientific leader. If the leader accepts the idea as offering possible interest to the state, and it is cleared as not being handled somewhere else in the Soviet Union, he gets a blank check to levy all necessary men, materials, and money to get the job done. How long he takes, how much money he spends, is of little consideration once his project has been deemed as having merit and as being potentially profitable."

• **Warning Note**—Western scientists can quarrel with the original direction of research projects, but they won't quarrel with the results of the Soviet research system that show up in such achievements as the TU-104. "This plane," says one aeronautical expert, "is the world's best of its type today."

It's dangerous, too, to discount the Russians' pure or fundamental activities, one MIT professor who has traveled in Russia in recent months warns. The top Red scientists today are every bit as good as our own, and the younger scientists are well-trained and engrained with the spirit of the elders to transfer the Soviet giant into a scientific mammoth. On fundamentals in some fields, they're extraordinarily well versed. In other fields, they're weaker than the U.S. But they know they're weaker and are trying hard to make up lost ground.

RESEARCH BRIEFS

High frequency radio signals have been used for the first time experimentally by RCA to transmit images of printed material over a distance of 1,000 miles without relay.

Controlling high blood pressure by treating the kidneys with a new drug, Chlorothiazide, is now being tested. The drug, a diuretic chemical, causes the body to lose salt. The new treatment was reported at a conference of the New York Academy of Sciences.

Data on effect of nuclear radiation on materials and systems for future aircraft are being gathered and disseminated by the Air Force at Battelle Memorial Institute, Columbus, Ohio.

Multi-synthetic tires—using the best synthetic rubber available for each part—may be put on the market in the future. Currently, new synthetics are being developed for each vital part—treads, sidewalls, beads, and plies. Such an approach, says Dr. William J. Sparks of Esso Research & Engineering Co., is leading to revolutionary concepts in tire making.

Meet Edward Jennett, Division H

banker for communications

"Location" tours are an important part of Edward Jennett's busy schedule. Many times his visits to customers away from The First National Bank of Chicago are desk conferences . . . but here you find him learning about the intricacies of a long-distance transmitting and receiving microwave relay system.

You might wonder why such intimate details would concern a banker whose job is financial assistance to communications and other great public utilities.

But when a man is genuinely interested in serving a business he will learn a lot about it. And of his 27 years as a loaning officer at The First National Bank of Chicago, Edward J. Jennett has devoted 14 years to serving the power and communications field.

Mr. Jennett is Vice-President of our bank and head of his Division. But he still spends many hours keeping in personal touch with the fields his Division serves.

In this, Edward Jennett is typical of the men who staff each of our 10 Commercial Divisions. Each is a banking specialist in that group of industries with which his Division works exclusively. His judgment is matured by years of experience in those industries. Yet he is a constant student of their constant change.

This is what can make our unique Divisional Organization unusually useful to you. It is why we invite you to talk about your needs with a man from The First—a banker who understands your business language.

**The First National Bank
of Chicago**



Building with Chicago since 1863

MEMBER FEDERAL DEPOSIT INSURANCE CORPORATION



The Electronics Frontier Offers

In the United States today, a handful of industries has an inherent growth capacity greater than the economy as a whole: electronics, chemicals, oil, power supply, possibly some of the rare metals.

Of these the brightest is electronics—and much of its lure lies in one factor. It takes massive capitalization and organization to enter all the others. But within the wide confines of the electronics industry—a field that includes anything from the most sophisticated systems to a plastic housing for a coil winding—anyone with the brains, the training, and the willingness can still carve a place for himself.

• **Fat Melon**—This year the electronics industry, exclusive of radio, television, and service and supply companies, will rack up some \$7-billion in sales. Sharing that melon are some 4,000 companies.

At the top end of the scale is a small group of giants: RCA, Western Electric, General Electric, Westinghouse, IBM, Sperry-Rand, the electronic arms of some of the aircraft companies—perhaps about 16 in all whose business exceeds \$100-million a year in the new field alone. About 200 more companies rack up sales of anywhere from \$100-million down to \$10-million; another 600 top \$1-million.

The rest of the 4,000 companies are scrabbling now—but future giants could easily come out of their ranks. As an industry, electronics is extremely volatile. The mortality rate is high, mergers make big companies out of little ones, and new outfits are always filling the gaps.

An electronics company's most valuable asset is its creative engineering

talent. Even mergers are primarily mergers of brains. It's a rare company in the business that has a constant product—the demands change too rapidly. Physical assets, compared to those of most industrial companies, are generally negligible. Customer good will is rarely a major factor—since half the output, some \$3.5-billion, goes directly to the U.S. government, and at least another \$1-billion indirectly to the same buyer.

• **One-Idea Companies**—Today, it's no longer news when a group of engineers, working for a large company, walk out to start their own. It rarely even indicates dissatisfaction with the former employers—most often it's simply the urge to use one's own energy and talent for oneself. Many of the small and medium-size companies started with a single product, or a single idea. Many others came into being to execute the ideas of others, because research centers or larger companies wanted a small quantity of a new specific item, but didn't have the facilities or the particular talents themselves.

A number of these smaller companies have no fear of the giants—because they are prepared to build the short-run special-purpose item, and the giants concentrate on long production runs. And knowledge advances so quickly that the long-run production item can be outmoded while the tooling-up is still going on.

• **Vicissitudes**—Though the long-range outlook is continuously upward, as an industry electronics can be subject to violent short-term fluctuations. Right now, it is particularly vulnerable to changes in defense policy. A recent

McGraw-Hill survey indicates that the industrial market for electronic equipment today is only around \$1-billion annually and that the rate of expenditure will be upped only 50% by 1960. But in the near future, missiles and nuclear energy alone will use up increasing quantities of new electronic equipment.

Meanwhile, the industry is in constant flux. The development of the systems concept of weapons and electronic apparatus means that only the largest companies are now able to undertake the big, complex jobs.

Many smaller companies have a built-in limitation on their growth because of the narrowness of their engineering talent. Medium-size and small companies have been merging madly to widen their talents and their markets. A recent survey of companies largely involved in supplying the military, made by Electronics, a McGraw-Hill publication, showed these companies almost invariably working toward a 50-50 balance between defense and commercial markets, in spite of the narrow range of the latter at present.

In the following pages, **BUSINESS WEEK** takes a look at three electronics companies, none very large or very small in terms of the industry, but each very typical of some aspects of the electronics world today. One, starting with a single idea, has grown comfortably, but may be reaching the limits of its current form. One started with a deliberate plan for a complex of companies to bull its way into the giants. And the third ran into some of the industry's most common hazards.

1. This Little Company Grew Bigger

In 1947, United Control Corp., a Seattle company specializing in servomechanisms and other electronic control devices, existed only as an idea in the minds of four men, all engineers working for big Boeing Aircraft Co. This year, its sales are running at a \$10-million rate. A staff of 600 turns out some 250 different control products, and it sells to almost all U.S. aircraft and missile manufacturers.

Like so many other companies in the electronics industry, it started with one idea, almost no capital, and a lot of hard work. Like many others, it barely managed to survive in its early years, then was to a degree rescued by the impetus the Korean War gave to all aircraft and electronic development. And today, like hundreds of others whose story largely could parallel

United Control's, its roots have taken hold, and it's branching out for wider fields.

• **Sensing a Need**—At the end of World War II, aircraft technology was in transition. Electrical and mechanical controls were already bumping the ceiling of their capabilities. New aircraft in development required much more sensitive devices. The four Boeing engineers—Jake Graybeal, Martin K. Lilleberg, Howard H. Suskin, and Louis P. Hanson—were then working on control devices for the new Stratocruiser. They figured the time was ripe for a shift to electronic controls.

Boeing regarded itself primarily as an airframe maker, not a manufacturer of component equipment, and so it wasn't overly interested in developing new electronic controls itself. But top

engineering brass at the aircraft company did encourage the four men to try out their idea on their own.

For two years, the quartet labored nights and weekends in the basement of Hanson's home to develop a new type of electronic control that could be used interchangeably for aircraft conditioning, anti-icing, wing-flap or engine speed systems—simpler and more dependable than anything else then available.

• **Slow in Coming**—The company was organized in 1947, incorporated in 1948, and financed by a \$2,000 bank loan to underwrite the first small order—from Boeing—for temperature control units for windshields.

But the next couple of years were lean. Defense procurement was down, airlines weren't ordering.

Rich Rewards—But Not to All



FOUR MEN with one idea launched United Control. (From left) Jake Graybeal, Howard Suskin, Louis Hanson, Martin Lilleberg.

When the first order came in, Graybeal left Boeing to devote full time to the new project. The remaining three salaries were split four ways, and all four continued working at night. The next year, Lilleberg came over full time, and the two remaining salaries were split. In 1949, sales hit \$10,000. The last of the four, Hanson, made the full switch in the summer of 1950 after the young company had received its first important order—for a control system for in-flight fueling. This—United Control's second development—was used for a series of Boeing planes, and a similar type was sold to Republic Aviation. Sales went to \$47,000.

For United, the refueling control proved to be the breakthrough. In 1951, sales reached \$279,000, jumped to almost \$1-million in 1952. The growth has been continuous since. The company's products have grown continually more sophisticated. A typical one today: a complex computing system to guide a pilot through the sonic

barrier. It's also working on missile guidance development.

• **Do It Yourself**—The four men have still to get rich on their work, since most earnings have been plowed back. Though they are the sole stockholders, they've declared no dividends, and their banker notes that they could still get more salary from Boeing than they're taking out of United Control.

From the beginning, the young company learned to scratch. The partners themselves cut down the first truck from a prewar car owned by one of them and it was retired from service only a few months ago. For tools, the company scoured the used tool market, reconditioned those it bought itself.

Much of its testing equipment is designed and built directly by the staff—in the earlier days either because the equipment didn't exist on the market, or because it was cheaper to build. A few years ago, when equipment was needed to test components under air

vibration conditions, the company drew on two of its engineers with knowledge of audio systems to build heavy sound speakers that could simulate the subsonic and ultrasonic vibrations of flight.

Physical facilities followed the same pattern. At first, the four partners did much of the basic labor—and on its first small building, United Control did its own contracting. Now with more money in the till, it hires others to put up its plants. Five buildings, scattered around Seattle, contain 63,000 sq. ft. of work space, and another 3,000 sq. ft. of warehouse. A planned sixth building will double the size of the physical plant by 1960.

• **Human Assets**—Yet United Control's real asset, as with other small electronic companies, lies far more in its engineering talent than in its still small physical plant. And paradoxically—considering its small capitalization, far from certain future, and the intense competition for creative engineering talent from far larger and richer com-



Though we'll admit some dandy
watermarks are found in bathtubs,
we're most partial to "Plover Bond"—
the watermark found in the finest
letterhead papers. In or out of
any bathtub, Plover Bond is the
watermark to watch for.

Whiting-Plover Paper Company,
Stevens Point, Wisconsin.



BETTER PAPERS ARE MADE WITH COTTON FIBER

panies—it's had comparatively little trouble building a solid staff.

In the big companies, even the best engineers frequently get lost in the shuffle, tied down to routine jobs, long production runs, and red tape. The small company has to be fast on its feet, shift direction constantly. A production run of more than a couple of hundred of any item without a design change is rare:

That gives every engineer a chance to work on a wide range of projects. Frequently he has responsibility for a project from beginning to end. This challenges him to use his full capabilities. There's the additional lure of getting in on the ground floor, moving up faster to positions of responsibility.

• **Responsibility Wanted**—"If you want responsibility here," notes one administrative man, "all you have to do is reach out for it. This industry is so new you can't really hire 'electronics people.' You almost have to grow your own."

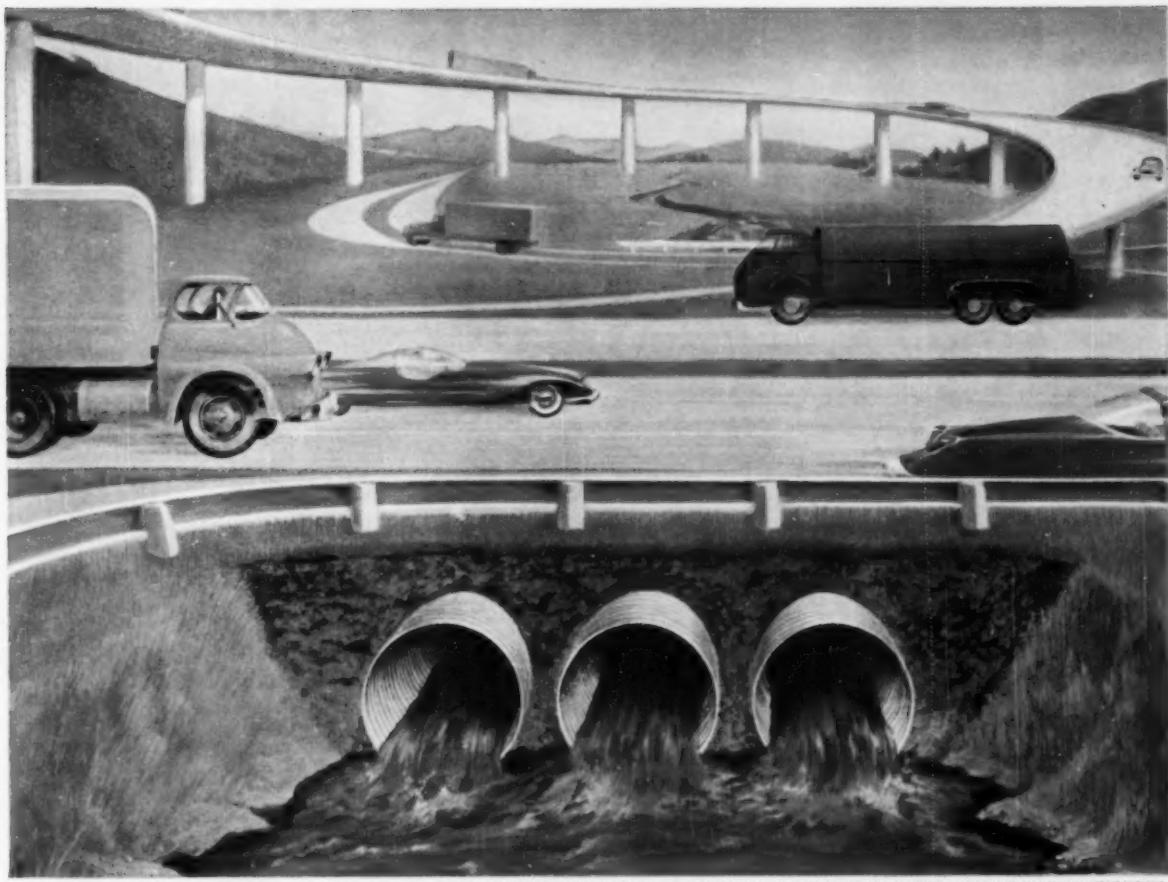
United Control isn't worried about the giants as competitors. No matter how big a company is, United brass suggests, it has only a certain number of people to put on any given job. "So the race actually boils down to one small group competing against another small group. And we have more flexibility, more freedom to move fast."

So far, the company's sales have been primarily in defense-related items. Now it's going after civilian work, expects 25% of its sales this year in the commercial field. It hopes to shift the ratio by 5% each year over the next five until it hits a balance of 50-50 defense and commercial. All the while, it wants to keep over-all volume going steadily up. It's working on control devices to be applied either throughout an industry or at least in widespread types of manufacturing. Future development and growth, it figures, have to come from sizable manufacturing jobs—not from what would be essentially consultant work.

• **How to Expand**?—Expansion at present poses the company's knottiest problem. So far, growth has been financed by earnings and bank loans, largely against government-guaranteed receivables. From now on, United Control will need more capital. That means either a public stock issue or merger.

United Control's owners aren't entirely happy about becoming a public company, with the necessary reporting and official restraints, and the problems of outside stockholders. Actually, the company is more interested in merging. It's been approached several times with offers to buy the company—but it's not interested unless it can do the acquiring itself. For that it's going to need both money and public stock.

(Story continues on page 183)



WHEELING CORRUGATED GALVANIZED METAL CULVERT PIPE IS MANUFACTURED TO COMPLY WITH FEDERAL AND ALL STATE HIGHWAY SPECIFICATIONS.

Wheeling Corrugated Metal Pipe's flexibility adds years to our highways of tomorrow

Coming up — 44,000 miles of new roads and highways, precious arteries for hundreds of our towns and cities.

Coming up — more need for Wheeling Corrugated Metal Pipe, vital for effective water drainage, to safeguard against road wash-outs and floods.

Yes, flexible Wheeling Corrugated Metal Pipe. *Flexible* to absorb heavy loads and distribute them around the entire surface. *Flexible* to withstand shifting land and fill. *Flexible* to prevent breaking and cracking so common with rigid-type culverts.

Yes, flexible for longer, more dependable road life.

Wheeling Corrugated Metal Pipe helps public funds go farther other ways, too; by saving highway construction costs. They are easier to handle, faster to install, cut freight costs and speed construction.

Wheeling Corrugated Metal Pipe, in a range of gauges and diameters, can be delivered at job-site almost immediately. For complete information, call the Wheeling warehouse, sales office or culvert plant nearest you.

WHEELING CORRUGATING COMPANY • WHEELING, WEST VIRGINIA
IT'S WHEELING STEEL



Where headroom is limited, Wheeling Pipe Arch is recommended. Increased area permits more rapid drainage.



Look how quickly and easily men work with Wheeling Metal Pipe. This, too, means lower costs, faster installation.



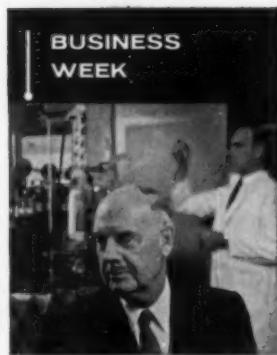
Wheeling warehouses, sales offices or culvert plants are in Atlanta, Boston, Buffalo, Chicago, Columbus, Des Moines, Detroit, Houston, Kansas City, Louisville, Madison, Martins Ferry, Minneapolis, New Orleans, New York, Peoria, Philadelphia, Richmond, St. Louis.



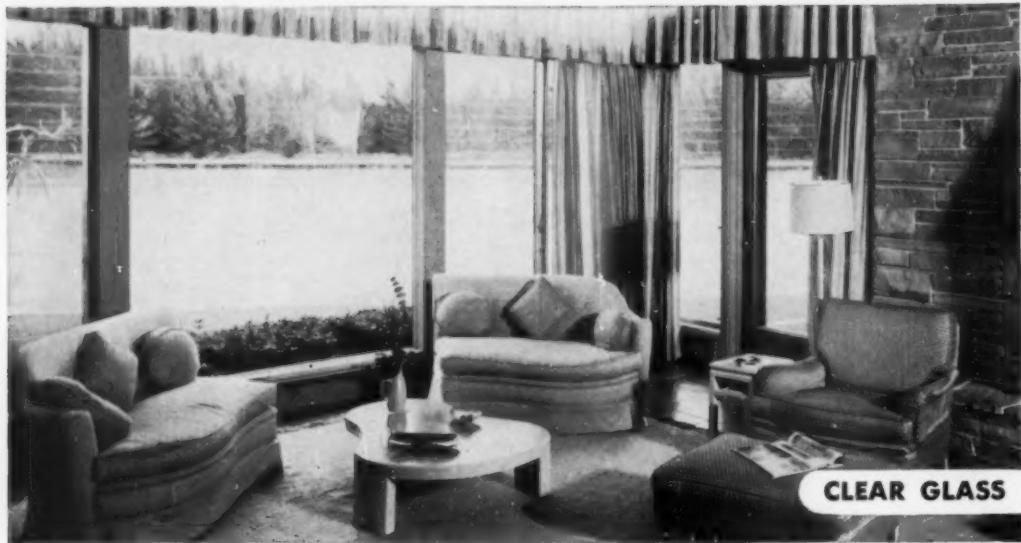
Busy week on the Union Pacific

Arthur Stoddard, always-on-the-move President of the Union Pacific Railroad, carries his office in his hat. Here, he sends instructions ahead via short-wave radio, while inspecting the UP Diesel shops at Omaha.

The man who runs a railroad learns early in life the high cost of the lost minute, the importance of a running inventory of the business facts and figures that fuel locomotives and fill freight cars. He finds in *Business Week*, as Subscriber Arthur Stoddard does, a timetable ideal for his needs. No other magazine publishes nearly as much about the world of business. Yet no other is so parsimonious with a busy man's time . . . in its crisp, department-by-department presentation . . . in its news-sense that edits out the inconsequential, while giving meaning to the essential. No wonder management consistently calls *Business Week* "most useful" of all general-business and news magazines . . . persistently places the most advertising in its pages. For management knows, from its own reading habits (as does BW advertiser, Union Pacific): *You advertise in Business Week when you want to influence management men.*



A McGraw-Hill Magazine
Member Audit Bureau of Circulations



Compare the glare in these two views. Residence of J. A. Haberkorn, Ft. Lauderdale, Fla.



American **LUSTRAGRAY** glare reducing sheet glass changes sun glare into soft light!

In the home or office, where sun glare affects comfort, efficiency and physical well-being, glaze your windows with AMERICAN LUSTRAGRAY sheet glass.

- Reduces glare 50%, eliminating eyestrain and fatigue
- Reduces significant amount of heat transmitted
- Provides exterior privacy with interior "clear glass" vision

Architects and builders requested this new functional gray glass. Ask yours today about AMERICAN LUSTRAGRAY.

WSW 6260



American
WINDOW Glass COMPANY

PITTSBURGH, PA.

PLANTS: ARNOLD, PA. • ELLWOOD CITY, PA.
FAHNETTE, PA. • OKMULGEE, OKLA.



LITTON INDUSTRIES' Charles Thornton set out deliberately to build a colossus.

2. Rival for the Giants

In the booming, crowded electronics field, Litton Industries, Inc., of Beverly Hills, Calif., is one of the few companies to attain giant size. Currently, it's edging up to the \$100-million mark in sales. But then Litton is a special sort of animal.

Under Chmn. and Pres. Charles B. Thornton, the company set giant stature as a deliberate goal. The method selected was acquisition of products and staff, augmented by internal growth. Since its inception four years ago, Litton has picked up all or parts of over a dozen different electronics companies—on an exchange of stock basis.

• **Contrast**—In 1953, Litton was pretty much a one-product company, with \$4-million in annual sales. Today it's an electronics and business machine company with hundreds of products, sales in the \$100-million range, 8,000 employees, and 17 plants scattered across the country.

Litton makes power tubes (klystrons and magnetrons) for radar gear and wave guides for microwave equipment. It also designs and makes guidance and control systems for missiles, communication equipment, a number of light-weight electronic computers, a catalogue full of electronic hardware—and a full line of office machines.

To keep growing, it counts on a full rounded product line and talented researchers.

Actually, it was Litton's latest acqui-

sition—Monroe Calculating Machine Co. (annual sales: \$45-million)—that shot it into the big time. But Litton's achievements and its promise made the deal feasible in the first place.

• **Genesis**—Like the team that founded Ramo-Wooldridge Corp., Thornton and a number of his key men at Litton are alumni of Hughes Aircraft Co., which produced the first effective fire control systems for U.S. planes. Thornton joined Hughes as assistant general manager and nursed the company from \$20-million to \$200-million in annual volume.

Sometime in 1953, Thornton met Joseph Thomas of Lehman Bros., the New York investment house. At the time, Thomas and a group of investors were dickering with Howard Hughes to take over the company. Although the deal never came off, Thornton and Thomas got together again after the "big walkout" at Hughes. They produced a new concept in electronics companies and a new trend in financing.

With little money but big ideas, Thornton and some enterprising colleagues had organized Electro Dynamics Corp. From Lehman Bros., they wanted \$1-million to buy Litton Industries and some \$400,000 to run it. Thornton's idea was to use Litton, then a maker of magnetrons for radar, as the base for a giant multi-product company.

• **Package Plan**—Convinced that this was a winning combination, Lehman

raised the money by distributing 50 investment "packages" to well-heeled private investors. Each package consisted of 20 five-year 5% bonds at \$1,200 each; 50 shares of convertible preferred at \$100 each, and 2,000 shares of common at 10¢ each. Thus, the price of a package would be \$29,200. Lehman got an option on 25,000 shares, and 450,000 of the 575,000 outstanding shares reserved for management.

The advantages of this scheme were several. The bonds, of short duration, gave a good yield, and as lines on Litton's plant and equipment, they provided fairly good protection to investors in case of trouble. The convertible preferred and common shares offered capital gains if the company prospered. And management's chunk of stock assured it future control and supplied a big incentive.

Other investment people shook their heads at a plan that left control in the hands of fund seekers. But, says a Lehman partner: "In electronics, it's key people that are hot, and you have to treat them accordingly." And it turned out to be a good gamble (the common stock now sells at \$40).

• **How to Grow**—In late 1953, however, Thornton's problem was how to expand from a base that amounted to a one-product company. He rejected two possible answers:

- Competing for design and manufacture of complete weapons systems. Litton had neither the money nor the staff for this.

- Going directly into research and development. It would take too long to get results this way.

Instead, he consciously turned to production and development of key equipment components, such as radar magnetrons and klystrons, and computers usable in fire control and guidance systems. This program, he reasoned, would bring current income, safety through diversity of products, and longrun growth.

• **Acquisition Trail**—To carry this out, Thornton needed products and people to develop them—in a hurry. So he took to acquisitions. In his first 17 months, he added all or parts of nine separate companies to Litton. Some of 1954's newcomers included:

- Birlan Corp. of Mt. Vernon, N. Y., which had designs for high-precision potentiometers.

- Digital Control Systems, Inc., of La Jolla, Calif., which gave Litton a talented staff and extensive patents in advanced commercial and industrial computing equipment.

- West Coast Electronics Co. of Los Angeles, a going concern that was making communications, navigation, and control equipment and conducting a big research program.

By this time, Litton looked pretty

E.F. Luna: Please note and return

ELECTRICAL TESTING LABORATORIES, INC.

2 EAST END AVENUE, NEW YORK 21
BUTTERFIELD 8-2600

TESTING • INSPECTIONS • CERTIFICATION



ELECTRICAL • PHYSICAL • CHEMICAL

July 17, 1957.

Mr. E.L. Gittleson,
Manager of Quality Control
Anaconda Wire & Cable Company
Hastings-on-Hudson 6, New York

Dear Mr. Gittleson:

Herewith is our Summary Report No. 366064 for 1956-1957, which brings together the results of the services we have rendered to your Company in this thirteenth contract year under your Quality Maintenance Program. As usual, our service covered your seven plants from coast to coast and consisted of the following:

1. Check or "audit" of inspection records at each plant, with results of some 121,500 tests examined. As in other years, every evidence that substandard material was rejected and so labelled, while only material in full compliance with relevant specifications went to the shipping room.
2. Witness of testing operations in each plant, with no criticism of technique, procedure or applicability of specification. As a "double check" -
3. Specimens of products on which plant tests had been witnessed were shipped to our headquarters and tests made there by our personnel, with our equipment and our interpretation of specifications; result, satisfactory agreement.
4. Calibration of all testing apparatus in the seven plants using ETL standards throughout. 352 pieces of testing equipment, some with as many as 5 ranges each, were checked; our certificate reports covered 366 pages. A fresh "ETL" red label was attached to each to indicate compliance with the accepted accuracy limits.

To summarize in one sentence: All of this checking by ETL furnishes once more, evidence of the effectiveness of your in-plant Quality Maintenance Program to insure that the products shipped are in full compliance with the relevant specifications.

Very truly yours,

Gordon Thompson
Gordon Thompson,
Chief Engineer.

ELG. Thanks - This certainly confirms
that Anaconda Wire and Cable is made
under the strictest quality
control program in the industry
GT/eg
E.F.L

NOTE: E T L REPORTS ARE THE PROPERTY OF THE CLIENTS TO WHOM THEY ARE RENDERED.
REPRESENTATIVE CHARACTER OF THE SAMPLES AND TO THE COMPREHENSIVENESS OF THE TESTS, THE
QUOTATIONS FROM E T L REPORTS ARE AUTHORIZED ONLY SUBJECT TO E

57423

good, and late in 1954, it was able to raise some \$600,000 more by selling 106,000 shares at \$6 each through Lehman. In 1955, it continued its acquisitions. Among the year's take were U.S. Engineering Co. of Glendale, Calif., a leading producer of etched circuitry, and two College Park (Md.) concerns—one a servomechanism maker and the other a manufacturer of electronic equipment for X-ray machines.

• **Recent Arrivals**—During 1956, Litton added Triad Transformer Corp. of Los Angeles, and early this year it took over Chromatic Laboratories of Emeryville, Calif., from Paramount Pictures Corp. This gave it licenses for the Lawrence color tube, useful in multi-color military radar; a valuable staff, and the services of two Nobel prize-winners—Drs. Ernest Lawrence and Edward McMillan.

Recently, Litton got stockholders approval of a proposed merger with Maryland Electronic Mfg. Corp. (annual sales: \$3-million). A similar deal is on the fire with Aircraft Radio Corp. of Boonton, N. J. Aircraft Radio (current sales: \$10-million) would be an outlet to make and market products in aircraft instrumentation developed by Litton's own research.

• **Inducements**—At first, Litton had little to offer another company but an idea, a highly reputable management, the possibility of further financing when needed (through Lehman Bros.), and stock that was widely circulated for an electronics concern.

However, Thornton is a very persuasive man. And for a company that had gone about as far as it could go with one or two products, there were evident advantages to joining up with Litton. Later, the process began to snowball.

In the fiscal year ending last July, before the last three acquisitions, Litton recorded sales of \$28-million and profits of \$1.8-million. Probably \$8-million to \$9-million of the sales volume came from the acquisitions, the remainder from the original Litton and internal growth of the whole family.

• **Biggest of All**—But Litton's biggest single unit is now Monroe, with \$45-million in annual sales, \$1.7-million in net income, 350 sales offices, and 5,000 employees.

Litton's reason for adding Monroe to the family was that in producing military computers, it devised products that seemed adaptable to civilian markets, and it had other civilian electronic products and ideas in mind. So it was looking for a vehicle to market them. It had dickered with a number of companies, including Underwood Corp., like Monroe a maker of office machines. Finally, it came to an understanding with Monroe.

Monroe, a family-controlled concern with a good reputation in its field, makes adding, calculating, billing, and bookkeeping machines. But with electronic equipment likely to make more and more of these devices obsolete, this isn't enough. Monroe had developed a small computer of its own, and it was working on other electronic gear. But it started late, and trade circles predicted it would get squeezed. So it turned to Litton as a sophisticated source of new products and ideas.

The owners of Monroe agreed to exchange their company's 300,000 outstanding shares for 450,000 shares in Litton. Three Monroe representatives were added to Litton's new 12-man

board. And this put Litton into a new business, facing a new test—in a market quite different from electronics and research, where it had won its spurs.

• **Size Problem**—Litton also faces a test stemming from its sheer size. So far, the company's management has maintained the face-to-face contact, free interchange of ideas, and group participation in decisions characteristic of so many small research companies. It has been a religion to keep key people under loose rein and make them feel a vital part of the company. But this becomes difficult as companies get bigger. And ambitious Litton plans to get a good bit bigger still.



HYCON'S Trevor Gardner found that gambling in electronics can sometimes be costly.

3. Learning by Mistakes

The very essence of electronics is research—not only to stay ahead against the competition but even to stay alive.

But research and development have their hazards. Big companies can frequently bury their mistakes. For a small company, the "wrong" research can be almost disastrous. That hard fact of life has been brought home to a number of electronics companies. They

have learned, among other things:

- You can get into a serious jam if the timing is wrong, if too much is spent on speculation, or if the products under development aren't unique.

- Fixed price contracts on products that still need basic development can run you deeply into the red.

- It doesn't always pay to take a deliberate loss on research and develop-

ing a product in the hope of reaping subsequent profits.

• **Sample Study**—A good case history of the problem is the story of Hycon Mfg. Co. of Pasadena, Calif., an outfit that started in 1946 making electronic components and airborne photographic equipment. Sales passed the \$1-million mark in 1950, ranged around \$12-million in fiscal 1954 and 1955. Profits in 1955 were \$443,000. In fiscal 1956, volume slipped to \$8.9-million; profits plummeted to \$80,000.

Then, this spring, stockholders were really stunned—by the annual report for the year ending Jan. 31, 1957, signed by Trevor Gardner as president and chairman. It was Gardner's first full year back in office after a three-year stint as the Defense Dept.'s chief research and development man. What Gardner had to report was a sickening \$2.8-million loss on sales of almost \$8-million. An unconsolidated affiliate, Hycon Eastern, Inc., lost another \$539,000 on sales of \$3-million. Although the loss piled up in one year, actually it was a cumulative result of factors dating back a good three years—mainly the wrong research and development at the wrong time. The current financial news is better. For the six months ending July 31, Gardner was able to report profits over \$500,000 on sales of \$6-million. Hycon Eastern was in the black by \$29,000 on sales of \$1.1-million.

• **Four Projects**—It had shifted direction somewhat when Gardner, a rocket expert, first became its president in 1948. By 1954, 60% of its total business was manufacturing Mighty Mouse rockets for the Navy. But late that year, the company learned the rocket contract would soon be cancelled. To fill the shop with new business, Hycon launched into four new projects:

- Jointly with scientists from three Eastern universities, it created a new subsidiary—Hycon Eastern—as a research and development company specializing in communications systems engineering. Hycon put up the required capital in exchange for 58% of the stock.

- It took Navy contracts to develop airborne transmitters—on fixed price contracts.

- It started work on an assortment of commercial electronic products.

- It expanded its existing business of aerial surveys—an outgrowth of its manufacture of aerial cameras.

On all four projects, Hycon fell flat.

- **Costly Gamble**—The excitement of pushing into new areas generated so much optimism that technical people underestimated costs in order to get business. Hycon management felt that taking a loss on some contracts was the admission price for getting into new fields. The gamble was costly.

On the transmitters, for instance,

more development was required than anyone expected. Each one actually cost Hycon about \$400 more than the price it had guaranteed the Navy.

Hycon had had experience with some aerial electronic equipment, but the transmitters had tougher requirements. A simple gasket, for example, broke down under certain weather conditions. It took extensive investigation and testing to find one that would hold up. Similar problems plagued other components.

• **Zealous But Naive**—On its new commercial products, Hycon was trapped by naivete.

Color television was being talked up in 1954. A market survey made for Hycon indicated that servicemen would buy special test equipment needed for color TV. Within nine months, Hycon spent \$500,000 tooling up and jammed into production a new color bar generator—for testing true colors. But it couldn't sell them.

Early models had so many bugs that many were shipped back to Hycon as unworkable. Color sets were selling at a very slow pace. Most important—as a deeper market survey disclosed three years later—most TV servicemen operate on capitalization of \$1,000 or less. Few were anxious to pay \$400 for an instrument out of which they'd get comparatively little use. Hycon is still making the equipment, and it's currently starting a production run of some 500—but it'll test the market very carefully before making more.

• **One Among Many**—For other commercial markets, Hycon engineers developed digital voltmeters and small oscilloscopes and toolled up to make them. The only trouble, says Gardner "was that the same equipment was already being produced by 100 others—and ours were maybe 1% better."

"You can't crack a highly competitive field," he adds, "unless you can offer a major advance, a drastic price cut, or something unique."

• **Long-Range Research**—Hycon Eastern fell into a different sort of trap. It was created as a company, in the fields of communications, data processing, and nuclear electronics. It has been important in the development of the scatter propagation principle in ultra high frequency radio.

But the payout on this sort of research takes time. Normally, some products would ultimately emerge from the research studies, but meanwhile, Hycon Eastern felt it should also have some proprietary products in the components field. So it chose a line of crystal filters used in communication equipment. Development was budgeted at \$400,000, but actually cost \$600,000 before commercial production started. Altogether, Hycon poured close to \$1-million into Hycon Eastern before

the affiliate started running in the black.

- **Factors Ignored**—Trouble with its aerial surveys had its root in the same itch for expanded business. In the expansion of aerial surveys, the company overlooked two factors:

- Every hour of survey time in the air creates about 4,000 hours of work in the processing labs.

- Weather can foul up the best plans.

By early 1956, the air survey company was behind schedule on some 26 different projects.

To complicate matters, while it was branching out, Hycon broke itself up into divisions and decentralized. Research within the company was uncoordinated. Each division handled its own buying, sales, and contract administration.

- **Lessons Learned**—The rough times taught the company some lessons. Administration has been centralized again—with a saving of some \$400,000 annually in overhead. The company will no longer take a fixed-price contract when extensive development work is still necessary. The aerial surveys division has been reorganized.

If anything, Hycon is now doing more research and development than ever—but channeling it more carefully.

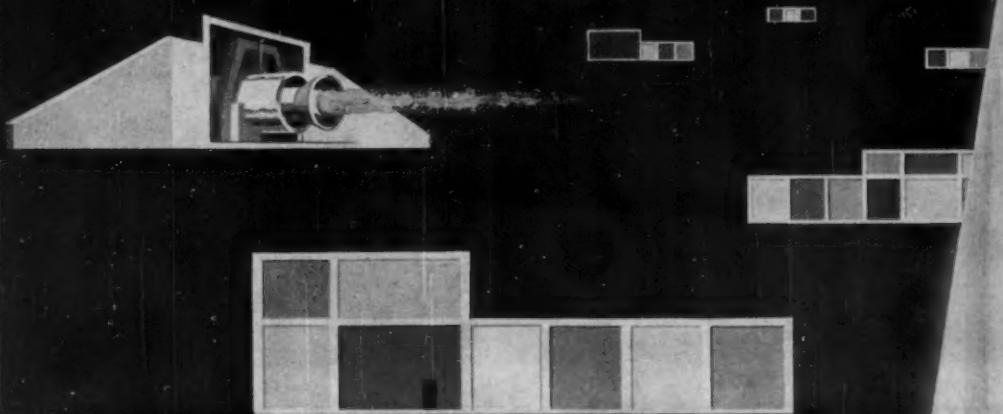
Hycon Eastern, no longer racing to find its own proprietary products, is building a stronger name than ever in its major specialty: research on communication systems.

More important, Hycon Mfg.'s concentrating its efforts now in fields in which it has a background of superior technical performance, with new products such as its Automatic Contour Plotter. This can automatically compute contour lines from aerial photographs; hooked to a computer, it can automatically figure cuts and fills on construction projects.

- **Salvage Jobs**—Some of the earlier "mistakes" are being salvaged—by incorporating them into more sophisticated systems. To its digital voltmeter, Hycon has added associated equipment to make a system for such jobs as printing out or pressures in various processes at petrochemical plants. Hycon is done with nuts and bolts jobs on single components—it's using all the resources of its central engineering staff, plus the scientists at Hycon Eastern, to develop complex systems.

Even the TV color bar generator looks hopeful at last. The new models work far better, color sets are gradually increasing—and even the TV manufacturers are buying some. It looks as if Hycon from now on will be considerably deeper in commercial electronic products—but this time, it's going to make very sure of the market before it sinks heavy development funds into a new item. **END**

MISSILE MOTORS FROM
UTAH



At its new Utah Division, on 11,000-acre, company owned facility, THIOKOL is capable of producing solid propellant rocket engines of unprecedented size and power—engines that may hold the key to our country's operational IRBM and ICBM missiles.

THIOKOL is the only manufacturer of large solid propellant motors having the performance capabilities and flight-proven reliability required by large, long range missiles. Almost 100% reliability has been proved in hundreds of flight tests.

THIOKOL power plants propel the operational Nike-Hercules, Sergeant, X-17 and other large missiles as yet unclassified.

Thiokol *
CHEMICAL CORPORATION

TRENTON, N. J. • EKTON, MD. • HUNTSVILLE, ALA. • MARSHALL, TEXAS
MOSS POINT, MISS. • BRIGHAM CITY, UTAH

* Registered trademark of the Thiokol Chemical Corporation for its liquid polymers, rocket propellants, plasticizers and other chemical products.



A TO Z COMMUNICATIONS SIMPLE AS a...b...c with RCA single-contract microwave systems

A complete communications network under one contract, one responsibility, one guarantee—through RCA's turnkey microwave system. A recent example of an RCA turnkey installation is the 700-mile five-state system providing communications and operating control for Texas Gas Transmission Corporation. Under a single contract, RCA assumed complete responsibility for furnishing and installing all equipment, towers, buildings and stand-by power plants at

the 32 stations. The system provides for up to 60 voice channels as well as for data processing, facsimile and VHF control. RCA communications systems are widely used for electric utilities, gas and petroleum pipelines, turnpikes, railroads, municipalities and many others.

For further information about RCA's turnkey microwave systems or other RCA electronic products, write Dept. ZD-26, Radio Corporation of America, Camden, N.J.

Electronic products for a thousand uses



RCA Broadcast Transmitters
are widely used in radio and TV stations, many of them RCA-equipped from microphone to antenna.



RCA 2-Way Mobile Radio for 2-way contact between offices and vehicles. It speeds service and reduces vehicle operating expense.



RCA Electron Microscopes are vital research tools, provide useful photographic enlargements up to 300,000 times original size.



RCA 16mm Projectors are lightweight, simplest to operate. Used to sell, demonstrate, teach... wherever an audience can be assembled.



RADIO CORPORATION of AMERICA

In Management

Office Workers Paid More Raises Than Factory Labor in New York

White-collar workers have been doing a better job of nicking management for pay raises than labor has. At least that's what a recent survey of 104,450 office workers in 123 representative companies in New York City by the Office Executives Assn. would indicate. While the factory worker's average wage has gone up 65% since 1947, New York City average clerical salary climbed 71%.

What's more, since most (59%) of New York offices are now on the 35-hour week, office workers are getting more pay for less working time. In almost half the companies surveyed, they also get overtime for any work beyond the basic work week, even if it's still below the 40-hour level that was previously the marker from which to measure overtime.

Office workers' raises started from a lower base than factory laborers, and they have still to catch up. Another reason for the white collar gains is that the amount and importance of corporate paperwork is rising. Average weekly salaries for various office jobs have changed as follows between 1954 and 1957:

- Private secretaries—from \$81 in 1954 to \$94 in 1957.
- Senior bookkeepers—from \$78 to \$95.
- Tabulating machine operators—from \$67 to \$76.
- Experienced stenographers—from \$60 to \$71.
- Typists—from \$56 to \$63.
- File clerks—from \$48 to \$60.

Darr Gets New Post at R. J. Reynolds; Bowman Gray Takes Over Presidency

Sixty-seven-year-old E. A. Darr, president of R. J. Reynolds Tobacco Co. moved to the newly created post of vice-chairman of the \$639-million company. His replacement is 50-year-old Bowman Gray, an executive vice-president since 1955.

Darr, president of Reynolds since 1952, "will continue to remain active in company affairs" say company spokesmen. Meanwhile, 66-year-old J. C. Whitaker remains as chairman of board, and chairman of the executive committee.

Crucible Steel Buys Remington's Half Of Rem-Cru Titanium, Inc.

One of the new crop of 50-50 companies (BW—Oct. 6'56, p88) bit the dust last week, when Crucible Steel Co. of America acquired full ownership of Rem-Cru

Titanium, Inc. It had formerly owned that light metal producer, jointly with Remington Arms Co. (BW—Nov. 16'57, p176).

The purchase, said Joel Hunter, president of Crucible, came about because "the titanium business can best be conducted as part of the specialty steel business. Plant facilities, research, and marketing for titanium, he added, have much in common with procedures for stainless steel and other special alloys produced by Crucible. The Rem-Cru plant adjoins Crucible's works at Midland, Pa.

Penn-Texas Boosts Stock Holding

In Fairbanks, Morse to Nearly Half

Penn-Texas Corp. which lost two proxy battles and at least \$1-million in a fight to take over Fairbanks, Morse & Co., is still buying FM stock. Last October Penn-Texas bought 26,800 FM shares and now holds 478,250 out of 1,072,000 shares outstanding.

Last May at the FM annual meeting Penn-Texas had about 700,000 FM shares but it owed money on them that was due soon.

So, in a settlement with FM management, P-T sold back to the company, for \$15-million, 300,000 shares which were then retired. Penn-Texas was thus able to get out of hock but its holdings were cut, it lost an average of \$3 per share sold off, and it signed a court agreement not to attempt a take over of FM for at least five years.

Hand of New Investor Group Seen As Minneapolis-Moline Official Quits

Last week, Henry S. Reddig resigned as president and a director of long troubled Minneapolis-Moline Co. The board tapped an outsider, 40-year-old J. Russell Duncan, a former vice-president of Consolidated Foundries Corp., to take over the presidency. Reportedly, the ouster was forced by banker-creditors unhappy over the company's poor earnings and inability to pay off upcoming short term loans of \$17-million. However, it's also proof that a new investor group—including Alexander Rittmaster of New York and industrialist, J. P. Lannan of Chicago—has quietly pushed aside a team led by the Reddigs, Henry and Edward S., who took over control of M-M two years ago (BW—Sep. 24'55, p146).

At that time, M-M had been losing money as defense contracts and farm sales took simultaneous drops. Edward Reddig, an M-M stockholder and a vice-president of White Motor Co., lined up enough stockholder support to take over the company with promises of more effective management and possible merger with other farm machinery producers. Edward Reddig then took over the chairmanship and last January his brother took the presidency.

However, no mergers materialized, the company got back into the black—but never by much—and last September the new investor group took over effective control.



Eimco selects
Torqmatic
Converter
for new "105"

Tractor-Dozer

Allison

IN THE "105" Tractor-Dozer Eimco introduces a new concept in earthmoving equipment. Advanced design and engineering features—such as *up-front* operator position, *two independent final drives* and *center-mounted power unit*—provide a new high in efficiency, maneuverability and traction.

And, when it comes to power, the "105" is a beautifully engineered matched team—from fan to final drives. Its Allison TC-530 TORQMATIC Converter delivers engine power instantly and smoothly—gives the "105" nimbleness and brute strength that adds up to greater push and faster work on every job.

Eimco selected a TORQMATIC Converter because the engineering facts—backed by years of experience in the most demanding applications—prove beyond question the greater efficiency and versatility inherent to the TORQMATIC design. Bring a new high in performance and efficiency to your equipment, with such cost-saving features as integral engine mounting which eliminates troublesome universal adapters—cast converter elements for longer service life and full-range horsepower—available only with TORQMATIC. Take a tip from Eimco and more than 80 other manufacturers of 122 types of road-building and construction equipment. Get the TORQMATIC story.

ALLISON DIVISION OF GENERAL MOTORS, Indianapolis, Indiana



TORQMATIC DRIVES

INDUSTRIES

The Cars That Carry The Carriage Trade

The eyes and dies of Detroit may be focused chiefly on the wheel-in-and-dealin' huckster whose roost is the sidewalk near a Ford or Chevrolet dealer, but a market struggle just as dramatic and just as important got under way this week. Its stridency is muted, its atmosphere more akin to that of a country club, but it is no less spirited—the luxury car salesmen are going into action, with the 1958 Cadillac just out to complete the lineup (pictures at right).

The luxury market is only a tiny 5% of the total, but it's still well worth a titanic struggle in an industry that doesn't dare leave any stone unturned.

First, there is more profit per unit in a \$6,000 car than in a \$2,500 car. Although Lincoln and Imperial have never made a cent for their parent corporations, Cadillac—which this year chalked up 108,179 registrations in the first nine months—has turned back as much as \$118-million worth of earnings to General Motors Corp. in a single year.

Second, auto manufacturers consider luxury cars their "show pieces" and put into them some of their best efforts of design and manufacture.

• **Fancy Foursome**—For the 1958 race, there are four entrants already in the showroom:

Lincoln, wincing from a setback of 6,000 registrations for the first nine months this year, has brought out an all-new, unitized-body car, with a Continental at the upper end of the price range.

Imperial, riding high with the greatest percentage of sales increase of any American car in 1957 but still 1,000 units behind Lincoln's 27,311 registrations, has gambled—like the rest of Chrysler—that buyers will settle for minor modifications of a successful design.

Buick, whose Roadmaster series took a licking this year, has upgraded the Roadmaster 75 to just inside the luxury car price class and has added the Limited series to reach well into that market.

Cadillac, resting unruffled atop a long-captive luxury market, has redesigned only the grille, rear fenders, and suspension, confident that the other entrants in the fine car field will have nothing to fight about but the left-overs.

After all, says Cadillac's general manager James Roche, "our only competitors are death and economics."

I. The Market

Who are the 5% of automobile buyers who are fair game for luxury car salesmen? Auto companies are reluctant to say who buys their show pieces, no doubt partly because of all the jokes about share-croppers, Miami Beach cabana boys, and numbers racket agents who drive the cars.

Cadillac and Lincoln both say merely that they consider their prospects to be persons with annual incomes of \$10,000 and up.

McCann-Erickson, Imperial's ad agency, ran a survey of 1957 Imperial and Cadillac purchasers in several major markets last May and found that 43% of Imperial owners and 38% of Cadillac owners have incomes above \$25,000. Another 30% for Imperial and 24% for Cadillac run between \$15,000 and \$25,000.

This survey leaves little question that, for the most part, it takes money to buy and operate a luxury car.

• **Price Range**—Prices of luxury cars range from \$4,251 factory for the Roadmaster 75 to the \$12,000 limited-production Cadillac El Dorado Brougham. There are really three price areas for four-door sedans in the luxury market, using factory prices as a base:

• About \$4,500 for the Imperial, Cadillac 62, and Lincoln Capri.

• About \$5,000 for the Crown Imperial, Cadillac Sedan de Ville (hardtop), and Lincoln Premier.

• \$5,500 and up for the Imperial Le Baron, Cadillac 30 Special Continental, and Cadillac El Dorado models.

Buick fits somewhere in between with the Roadmaster 75 and the \$4,600 Limited, and the Chrysler New Yorker at \$3,900 is at the upper end of the medium-priced cars (BW—Nov. 16 '57, p199). Of course, accessories and special body styles, especially convertibles, run other medium-priced cars up into the luxury market, too.

• **Losses and Gains**—This year the luxury market saw some sharp changes that have put the industry to watching it closely. For the first time, Packard was missing from the fine car field, and this logically offered each of the others a bigger share of the



CADILLAC



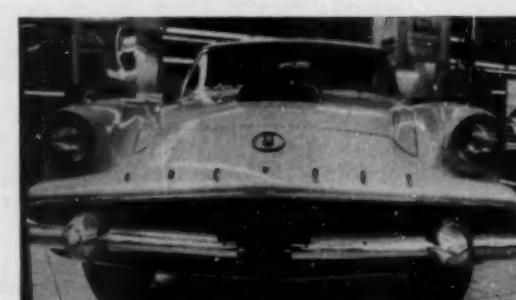
IMPERIAL



LINCOLN



MERCEDES-BENZ



PACKARD

pie. But that isn't what happened, according to registrations:

Nine-Month Registrations		
	1956	1957
Cadillac	109,910	108,179
Lincoln	33,225	27,311
Packard	8,691	...
Imperial	7,324	26,312
Totals	159,150	161,802

To understand what happened this year, one has to look also at the record of the Chrysler New Yorker, which dropped from 27,791 to 26,416, and the then lower-priced Roadmaster, which dipped from 39,644 to 34,933 for nine months.

It looks then as if two things happened in 1957:

- Imperial tallied up a tremendous sales gain, drawing not only on its competitors but also dipping into the upper-medium-priced cars.

- By doing the latter, Imperial actually expanded the luxury market by 2,652 units while the industry as a whole trailed the previous year by 11,630.

Significantly, a factory-owned New York City Imperial agency reported the following tabulation of trade-ins on the 1957 model: Cadillac, 17%; Buick, 10%; Oldsmobile, 7%; other GM cars, 3%; all Chrysler products, 23%; all other makes, 10%; no trade, 30%.

II. The Cars

Into a market where Cadillac has long held a commanding position Imperial is imposing a sudden threat, and Buick is suddenly entering. Lincoln is introducing a brand-new car.

To see why Lincoln brought out unitized body construction (which combines body and frame) for 1958, you must consider what luxury cars have to offer. Since today's low-priced cars have, either as standard equipment or as optional extras, all the power assists, interior styling, and engine supremacy that once belonged only to high-priced cars, the latter can now offer only greater size, weight, workmanship, and prestige.

• **Selling Point**—This is exactly what the Ford Motor Co. had in mind when it designed the 1958 Lincoln. Lincoln's chief engineer, Harold Johnson, explains: "We found that even though our 1952-55 car was well designed and popularly styled—and swept the Mexican road races at a time when speed was selling—it didn't sell well because it wasn't a big car. People who pay \$5,000 for a car expect size if nothing else. So we designed the 1956 Lincoln as a big car, and it sold the most cars in Lincoln history."

The 1957 Lincoln, changed mostly in its sheet metal, ran head-on into completely new Cadillacs and Imperials, and it fell behind the previous year's performance.

However, the decision to go to a unitized body had already been made—actually as far back as February, 1955. A new Lincoln plant was being planned near Detroit, and Ford felt this would be a logical time and place to start the unitized body.

- **Body Advantages**—A unitized body, of course, is nothing new in the industry or in Ford Motor Co. Before World War II, Ford's Lincoln-Zephyr had a species of unitized body, as did the Chrysler Airflow models of the middle 1930s. American Motors' present Ramblers trace their unitized body back to the 1941 Nash 600. And Ford's own overseas divisions in Germany and Great Britain have long been building unitized-body cars.

"Actually, the Lincoln-Zephyr didn't have a true unitized body," says Johnson. "What it had was a conventional body welded to a more or less conventional frame."

Lincoln feels that, in the long run, it will also be cheaper to build a unitized-body car than a conventional one. The necessity of building a new plant and entirely new kind of assembly line for unitized-body construction has probably held back that adoption of this design by other makers.

- **Quality Control**—With the unitized body and the biggest new car on the road, Lincoln figures it can offer the luxury buyer the size, weight, and quality he wants. Prestige, too, comes both with price and the fact that Lincoln has the Continental in the same mold at the upper end of the luxury field (BW—Oct. 5 '57, p130).

To further insure quality—the one item that's most difficult to produce from a manufacturing standpoint—Lincoln has introduced Ford's "quality audit" check system at the plant and has carried it through to the dealers.

It often happens in all price classes that after a dealer has fulfilled his obligations under the usual 90-day guarantee, he washes his hands of the customer's car troubles. Particularly when a man buys a \$5,000 car, he expects satisfaction, not a brush-off.

"I hate to give credit to a competitor, but we have to face the fact that Cadillac has a fine and ethical dealer organization," says an executive of another company.

So Lincoln is coming down hard on its dealers, and backing them up, too. This means going beyond the ordinary guarantee, allowing more payments to dealers for work done to remedy defects, and putting more company service representatives in the field.

Quality is the stated goal of Imperial,

too. Says Chrysler Div. Pres., E. C. Quinn: "We have only one aim in 1958—to build the highest quality car made in the United States. I personally go down to the final assembly line, when I have time, and inspect cars."

- **Specialists**—Cadillac, however, boasts that quality is not something you can set your sights for one day and achieve the next, regardless of the expenditure or desire. The division claims that Cadillac workers, who have the longest average service in the industry, are attuned to building a quality product because they have never worked on anything else.

It's true that Cadillac also built the La Salle, a less expensive car prior to 1941, but executives consider that make also a quality car. The La Salle cost only \$400 less than Cadillac (at a time, of course, when cars cost about half as much as today).

In contrast, Chrysler has been building cars that range from lower medium price all the way up to luxury cars on the same or parallel assembly lines. Until this year, Lincoln has done the same. And Packard dates its decline in the luxury car market by when it began building a medium-priced car (the 110 or Clipper) in the late 1930s.

III. Next Year

Luxury car executives are optimistic about the sales performance of their cars in the coming year.

Cadillac expects no serious inroads on its customers, but it will not tolerate smugness in its people. With a production capacity of 150,000 annually, Cadillac had a model cleanup this fall averaging one car per dealer.

Quinn of Chrysler Imperial predicts a year "as good or better," and Lincoln shows its spirit by gambling more than \$100-million in plant and tooling on its new model. Buick thought enough of the prospects to enter wholeheartedly into the market. Studebaker-Packard Corp. will offer the German Mercedes-Benz in this price class, but competitors say it isn't really big enough to meet the standards for a luxury car.

- **Plenty of Dough**—There's one other factor that seems to strengthen the auto makers' optimism about their top lines: Price is apparently no barrier where prestige is concerned.

Early reports from Lincoln dealers show that the premium-priced Continental Mark III (\$3,500 cheaper than previous, practically custom-built Mark II) is doing very well. Roadmaster sales jumped when Buick upgraded the car \$400 in midyear. Imperial has undoubtedly taken sales from lower priced makes as well as from competitive cars.

This all fits the sales phenomenon of the fine car field—what one executive called "mink coat psychology." **END**



BUSINESS FORMS WITHOUT CARBONS

NCR PAPER DOES IT!... produces cleaner, clearer copies

Business forms users everywhere are discovering that NCR Paper speeds up their work. Without using carbon paper or even any carbonization, this amazing paper makes perfect copies of sales slips, invoices, premium notices, stock requisitions—any one of hundreds of applications where clean, clear copies are needed.

Non-smearing NCR Paper, perfected by the research laboratories of The National Cash Register Company, eliminates smudging of copies or fingers and

is easy to handle because it requires no carbon inserts. Up to five legible copies can be made with a standard typewriter, ball-point pen or pencil and eight or more with a business machine or electric typewriter.

NCR Paper is simple to use. Just put together several forms. Copies are obtained from hand written or business machine or typewriter forms. Finished copies are always neat and clean, easy to read.

Have your forms printed on NCR Paper by your present forms supplier. You'll be amazed how easily it solves the problem of producing multiple copies. You'll get better, cleaner copies in less time! Phone your present forms supplier, today, for further information.



*TRADE MARK REG. U. S. PAT. OFF.

National

NCR PAPER AND SUPPLIES

ACCOUNTING MACHINES

ADDING MACHINES • CASH REGISTERS

ANOTHER PRODUCT OF
THE NATIONAL CASH REGISTER COMPANY, Dayton 9, Ohio
988 OFFICES IN 94 COUNTRIES

BASIC RESEARCH . . .

More Practical Than You Think

This editorial, one of a special series on the importance of research to the American economy, deals with an aspect of our research program that may have serious consequences in future years — the lag in basic research.

An earlier editorial in this series noted: "The keen interest of U. S. business firms in scientific research points the way to a new kind of prosperity for our economy — a prosperity based on deliberate creativity." As a result of the dramatic increase in industry's research expenditures, more new products will be introduced in the years 1957-1960 than in any previous four-year period.

A steady stream of new products and new processes means better values for consumers and lower costs for business. And thus it promises to sustain a high level of general prosperity that defies the old laws of boom and bust. **But, as we look further ahead, there is a danger that the stream of research discoveries may run dry because of our neglect of basic research.**

This danger was described by John Jay Hopkins, late founder and chairman of the General Dynamics Corporation: "Unless there is a revolutionary development in America of pure, not applied, science, there will come a day when there is no use in trading in your old car; because the new one is no better. The only difference between this year's television set and next year's will be the appearance of the cabinet! Scientific progress will be replaced by scientific stagnation."

What Basic Research Is

Basic (or pure) research has been characterized as the pursuit of knowledge for its own sake rather than to fulfill some practical objective. It is generally carried out in an environment which allows the in-

vestigator the freedom to follow the lead of his curiosity. The scientist in basic research, in the words of Glenn T. Seaborg of the University of California, is not concerned with "utilitarian goals, but a search for deeper understanding of the universe and the living and inorganic phenomena within it."

Impractical as basic research may seem in its initial purpose, it is an essential prerequisite to applied research and product development. A few examples will show how some of the greatest technical advances of recent years have come from basic research projects that had no immediate practical objective:

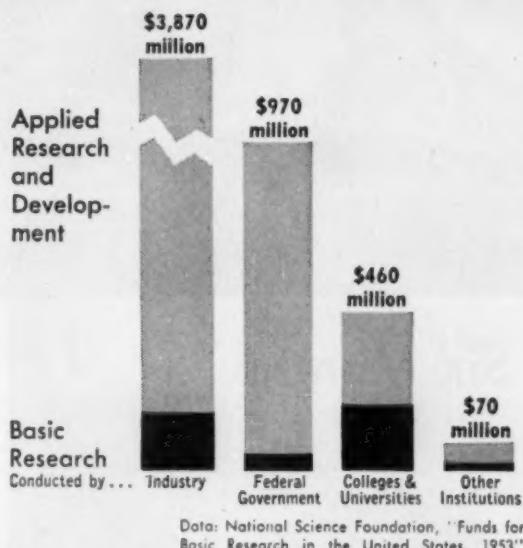
- **Radar** — an important military development of World War II with broadening commercial applications — was the outgrowth of a basic research project whose purpose was to obtain information about the height of the ionosphere, the layer of air that lies some 25 miles above the earth's surface.

- **Transistors** — the miniature devices which are already vital components of hearing aids, pocket radios and a wide variety of industrial equipment — were invented at Bell Laboratories (research subsidiary of the American Telegraph and Telephone Company) following university investigations into the electrical behavior of solids.

- **Neoprene** — a synthetic rubber — was developed by duPont with the help of basic information provided by Father Nieuwland of Notre Dame, who discovered he could control the polymerization (the linking together of molecules) of a certain class of organic compounds.

- **Nylon** — the first of the noncellulosic synthetic fibers that have revolutionized the textile industry — grew out of fundamental research by Dr. Wallace Carothers on long-chain polymers.

Only 8% of All Research and Development in the U. S. is Devoted to Basic Research



Industry's Stake in Basic Research

Industry traditionally has relied upon colleges and universities and other nonprofit institutions for basic research; and the U. S. has long benefited from the greater emphasis placed on basic research in Europe. It is conventional to think that business cannot, and should not, do much about "ivory tower" projects which do not have immediate practical application.

However, there is not so much in this idea as is supposed. The examples above illustrate what Caryl Haskins, president of the Carnegie Institution, has called "the widespread paradox that the most important practical consequences are commonly the least sought after." Furthermore, it is certain that, without adequate basic research, industry's efforts to produce new and better products will become progressively more difficult. And our national defense, in an age of breathtaking military applications of science, will become increasingly precarious.

In the past, our economic growth came largely through expansion into new lands or through discovery and development of rich deposits of natural resources. Such opportunities are relatively limited today. The great opportunities now lie in discovering new materials and new properties of the materials we already have. **This is the job of basic research, and industry has a vital stake in it.**

The chart indicates the tiny share of research efforts in the U.S. that is devoted to basic research. **Only 4% of all research by industry, and only 8% of all research in the U.S., during the year 1953**

(the latest for which information is available) represented fundamental research to add to overall scientific knowledge. Even in colleges and universities less than half the research performed is basic research. At least one Nobel Prize winner has expressed the belief that we need and should work toward a doubling of the proportion of our total research effort that is devoted to basic research as soon as possible.

What Business Can Do

Without anything like a staggering increase in the total cost of its research programs, industry could do much to expand our basic research effort. Companies with big research programs should, as a matter of successful survival, be devoting a share of the effort in their own laboratories to basic research. Significantly, companies that are already doing a notable job of basic research have also made an outstanding record of translating such research into new products for industry and the consumer.

Smaller companies may rightly regard the conduct of research projects with uncertain prospects of reward as a luxury. Some basic research, indeed, never results in any tangible payoff. But, with modest contributions, small companies can still have a part in the advance of basic research. They can join together with other companies on cooperative projects. They can support basic research through trade associations and technical societies. They can help research centers in universities and other nonprofit institutions. Arrangements are available in some instances whereby business firms can pay a fee to have access to work done by university researchers.

One way or another, it is up to private business firms to see that basic research moves forward. By doing so they will be laying the groundwork for the development of the new products and technology on which their growth, and the growth of the economy, depend.

This message is one of a series prepared by the McGraw-Hill Department of Economics to help increase public knowledge and understanding of important nation-wide developments. Permission is freely extended to newspapers, groups or individuals to quote or reprint all or parts of the text.

Donald C. McGraw
PRESIDENT

McGRAW-HILL PUBLISHING COMPANY, INC.

Never a Motor Burnout
Caused by failure of a
KLIXON Motor Protector
...AiResearch



Typical of AiResearch electro-mechanical components is this power unit used to power the cowl flap actuating system on Douglas DC-7's.

AiResearch Manufacturing Division of The Garrett Corporation, long a leading manufacturer of electro-mechanical components for aircraft, is a major user of **KLIXON Inherent Overheat Motor Protectors**.

Elvin Lytle, design specialist of AiResearch, talks about **KLIXON** Protector performance this way: "To our knowledge, during the past 10 years, AiResearch power units and actuators have never had a burnout caused by failure of **KLIXON** Motor Protectors."

In this application, the Klixon Protector shuts the cowl flap actuator off only when maximum allowable motor winding temperatures are reached — thereafter cycling the motor until its duty is safely completed, or until the cause of overheating is corrected.

Write now for information on how to get more out of your aircraft motors with **KLIXON** Protectors.

METALS & CONTROLS CORPORATION
Spencer Thermalite Division, 361 Forest Street, Attleboro, Mass.



+ INDUSTRY'S BIG PLUS +
+ Skilled Labor
+ Ideal Plant
Sites
+ Modern
Industrial Parks
= RHODE
ISLAND
INDUSTRY'S
IDEAL STATE
R. I. Gov. Coun., Rm. 521, State House, Prov., R. I.



UNMATCHED

Nearly twice as many business advertisers use **Business Week** as any other general business or news magazine.

CHARTS OF THE WEEK

Retail Sales

Billions of Dollars Seasonally Adjusted
18.0



Data: Dept. of Commerce.

© BUSINESS WEEK

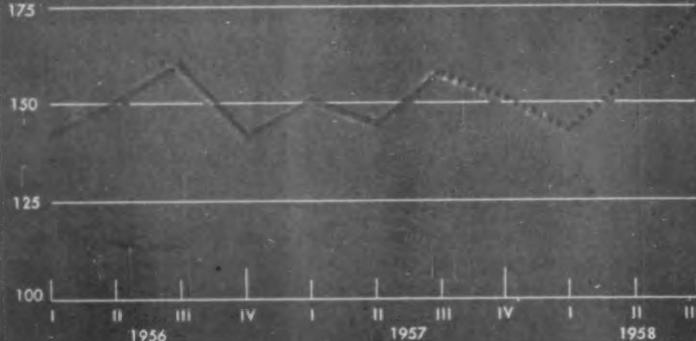
Lowest in Six Months

Total sales of retail stores in October dropped to \$16.6-billion, the lowest month since April. This was the third consecutive month that the seasonally

adjusted sales figures have shown a decline. The month was 2% lower than in September, but still 4% higher than in October, 1956.

New Orders for Non-Electrical Machinery

1950=100, Seasonally Adjusted



Data: McGraw-Hill Dept. of Economics.

© BUSINESS WEEK

More Orders Due in Mid-1958

Capital goods producers are considerably less optimistic about new-order prospects in the current quarter and for the first quarter of 1958 than they were a few months ago. But their hopes are rising about the outlook for new orders for the second and third quarters of 1958. These are the results of the latest McGraw-Hill Dept. of Economics' quarterly forecast of new orders for machinery (except electrical).

The Economics Dept. points out that this forecast is not inconsistent with

the results of its capital spending survey released two weeks ago (BW—Nov. 9 '57, p23), which forecast a 7% decline in capital spending from 1957 to 1958. That's because forecast figures on new orders relate to capital spending that would come only six to nine months after orders come in.

For the third quarter of 1958, the new-order forecast looks ahead, overall, to a 10% larger dollar volume of new business than in the third quarter this year. In the subgroups covered,



... another leading company served by *Ætna Casualty*

A fast-growing appliance manufacturer like Whirlpool needs an insurance carrier with the facilities, the experience, and the *initiative* to stay abreast of the company's organization changes and rapid expansion.

Knowing that insurance can affect virtually every phase of its operations — from production and profits to employee and public relations — Whirlpool expects an insurance company to keep both the business and human sides

of the picture constantly in view. *Ætna Casualty* does this successfully.

Ætna Casualty's underwriting plans are designed to reflect — in lower insurance costs — the results of a truly effective accident prevention and loss control program. In addition, *Ætna's* policy of prompt, fair, intelligent claim handling is a positive factor in improving employee morale and public goodwill.

Why not consult *your* agent or broker about *Ætna Casualty* . . . soon?

Get more than just a policy . . .
get the policy with the

P.S.
*Personal Service



ÆTNA CASUALTY AND SURETY COMPANY

Affiliated with *ÆTNA LIFE INSURANCE COMPANY* • *STANDARD FIRE INSURANCE COMPANY*
Hartford 15, Connecticut



SEE YOUR *ÆTNA CASUALTY* AGENT OR YOUR BROKER FOR THE BEST IN BUSINESS INSURANCE COUNSEL

clues:

To The Solution
of Management
Men's Problems

Published: weekly—closes 12 days in advance.

Rate—\$9.30 per line (\$4.65 per line for position wanted ads), minimum 2 lines. Allow 5 average words as line; count 2 words for box number.

REPLIES (Box No.): Address to office nearest you
c/o This publication Classified Adv. Div.
NEW YORK: P. O. Box 18 (56).
CHICAGO: 680 N. Michigan Ave. (11).
SAN FRANCISCO: 68 Post St. (5).

EMPLOYMENT

Positions Wanted

Business Manager-Expeditor (28) B.A., M.A. Fully capable with top managerial experience in public relations, personnel, accounting, and purchasing. Excellent writing ability. Presently employed in Southwest, but will relocate for right position. Recommendations and resume upon request. PW-6572, Business Week.

Marketing Jr. Executive, seeks change 6 yrs top exp. in flex. packag., food, & appliances, covering product & package development, sales, promotion, research & advertising. Presently employed. Age 30. Will travel & relocate. PW-6643, Business Week.

SELLING OPPORTUNITIES

Selling Opportunities Wanted

Boston Based Mfg's. Agent Seeks Established Industrial Line to sell direct, e.o.m., or Ind. Supply Distrs. RA-6638, Business Week.

Manufacturers Representative Traveling Central American countries of Guatemala, Salvador, Honduras, Nicaragua, Costa Rica and Panama solicits representation manufacturers only. Agricultural Chemicals, Fertilizers, Equipment for Coffee Mills, Sugar Mills, Breweries, other Industries, Belting, Electrical, etc. Thomas D. Cappa, Apartado 253, San Salvador, El Salvador.

SPECIAL SERVICES

W2 Forms for '57. Free 100 pg. Catalog. Accountants' Supply Co., 305 Canal St., NY13.

Need Translation? All Languages. Your Ads, manuals, catalogs, film scripts, house organs, sales letters. Turn-around service on business correspondence, type on your own letterhead. Technical and industry material a specialty backed by years of experience. Write Overseas Business Services McGraw-Hill International Corp., 330 West 42nd St., New York 36, N. Y.

Want a Branch Office in Chicago, Baltimore, Atlanta or Kansas City? Our fully staffed offices in these and other cities have desk and file space, Secretarial Service, Telephone Answering, Mail Forwarding and many other facilities. Write Dept. WB for descriptive brochure on our services. Manpower, Inc., 820 North Plankinton Avenue, Milwaukee, Wisconsin.

BUSINESS OPPORTUNITIES

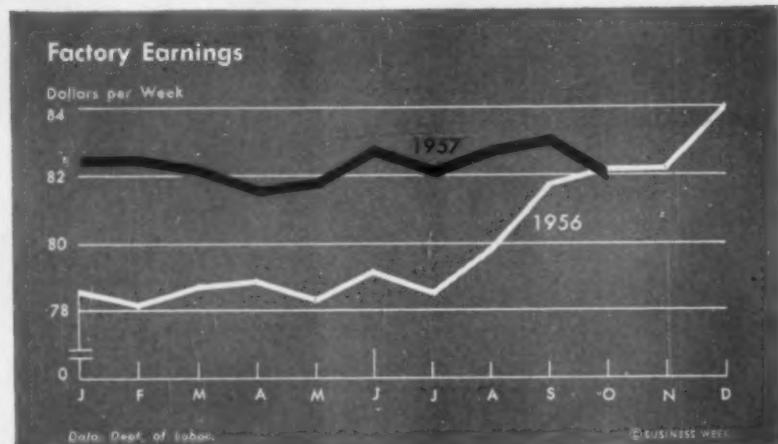
Free Catalog. Contains hundreds of businesses, farms, and income properties throughout U.S., Canada. Specify type and location desired. Deal direct with owners. U.I. Buyers Digest, 1608 Hillhurst, Dept. BW-7, Los Angeles 27, Calif.

CAPITAL TO INVEST

Commercial and Real Estate Financing. 1st & 2nd Mortgages, Construction Loans, Chattel Loans on Machinery, Equipment, Fixtures & Inventory, Sale & Leaseback, Present Financing Consolidated and Increased Payments Reduced. Receivable Discounting, Re-Discounting and Installment Financing. Long Term Subordinated Note and Debenture Financing. New Ventures Financed. Promotional Financing. U. S. & Canada. Sy Field Co., 1457 Broadway, New York, N. Y. WI 7-7395.

new orders are expected to show these third-quarter gains over 1957: Office machinery 24%, construction and mining machinery 12%, engines and

turbines and other industrial machinery 10%, pumps and compressors 5%. The smallest increase (2%) was forecast by the metalworking machinery group.

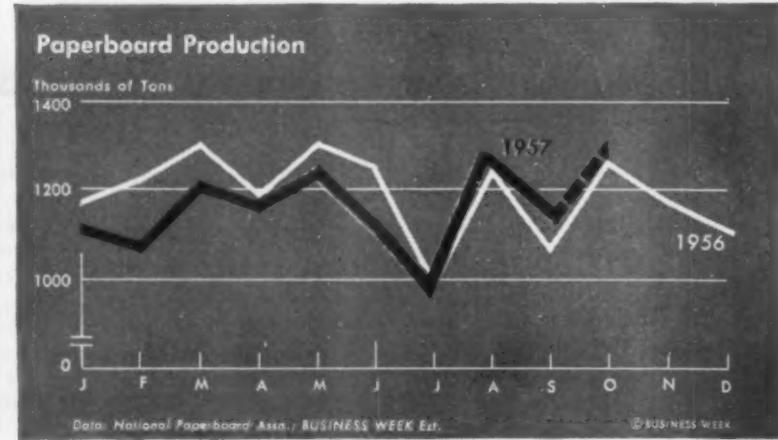


Pay Envelopes Are Leaner

The average weekly earnings of factory workers in October dipped to \$82.16 from the year's high of \$83.20 in September, and were down 5¢ from the year-ago level of \$82.21. The all-time high for any month was the seasonal \$84.05 of December, 1956. Average hourly earnings, including overtime, remained at \$2.08, but a decline in

overtime worked cut into take-home pay.

The work-week averaged 39.5 hours in October, lowest since July, 1954. It was 40.0 hours in September, and 40.7 in October, 1956. The Commerce and Labor Depts. report an unprecedented number of lost working hours because of illness in October.



Paperboard Bids for a Record

In the last three months, paperboard production has moved well ahead of 1956 levels, after lagging during the first seven months of 1957. October, in fact, probably set a new production record. Reduced output in first-half 1957 was necessitated by high inventories, a result of overproduction in second-half 1956. With the recent

pickup in demand, production may well roll up to a record for the year.

Paperboard, as a measure of distribution, is one business indicator that is turning up at this time when most are faltering. However, it should be kept in mind that its value as an indicator is partly offset by its artificially low level in first-half 1957.

ADVERTISERS IN THIS ISSUE

Index for Business Week November 23, 1957

ADDRESSOGRAPH-MULTIGRAPH CORP. 32	Agency—The Griswold-Eshleman Co.
AETNA CASUALTY & SURETY CO. 197	Agency—Wm. B. Remington, Inc.
AIR MAZE CORP. 183	Agency—The Griswold-Eshleman Co.
ALLEN-BRADLEY CO. 55	Agency—The Fenaholt Adv. Agency, Inc.
ALLISON DIV., GENERAL MOTORS CORP. 190	Agency—Kudner Agency, Inc.
ALUMINUM CO. OF AMERICA 14-15	Agency—Ketchum, MacLeod & Grove, Inc.
AMERICAN GELOSO ELECTRONICS, INC. 74	Agency—Burton Browne
AMERICAN OPTICAL CO. 38	Agency—Sutherland-Abbott
AMERICAN TELEPHONE & TELEGRAPH CO. 18	Agency—N. W. Ayer & Son, Inc.
AMERICAN TRADITIONS PROJECT OF THE FUND FOR THE REPUBLIC, INC. 117	Agency—Carson, Roberts, Inc.
AMERICAN TRUCKING ASSN., INC. 164	Agency—The Allman Co., Inc.
AMERICAN VISCOSCOPE CORP. 100	Agency—N. W. Ayer & Son, Inc.
AMERICAN WINDOW GLASS CO. 182	Agency—W. S. Walker Adv. Inc.
AMOCO CHEMICALS CORP. 33	Agency—D'Arcy Adv. Co.
ANACONDA WIRE & CABLE CO. 184	Agency—Kenyon & Eckhardt Inc.
"AUTOMATIC" SPRINKLER CORP. 16-17	Agency—G. M. Basford Co.
BABCOCK & WILCOX CO. 81	Agency—O. B. Tyson & Co., Inc.
THE BANK OF NEW YORK 99	Agency—Doremus & Co.
BANKERS BOX CO. 148	Agency—Frank C. Jacob
BENDIX AVIATION CORP. 157	Agency—MacManus, John & Adams, Inc.
CHARLES BRUNING CO., INC. 107	Agency—H. W. Kastor & Sons Adv. Co., Inc.
BURROUGHS CORP. 4th Cover	Agency—Campbell-Ewald Co.
BUSINESS WEEK 180-181	Agency—H. W. Kastor & Sons Adv. Co., Inc.
CABORUNDUM CO. 42-43	Agency—G. M. Basford Co.
CELANESE CORP. OF AMERICA 125	Agency—Ellington & Co., Inc.
CENTURY ELECTRIC CO. 122	Agency—Marsteller, Rickard, Gebhardt & Reed, Inc.
CHART-PAK, INC. 186	Agency—Wm. B. Remington, Inc.
C.I.T. CORP. 89	Agency—Fuller & Smith & Ross, Inc.
CITIZENS & SOUTHERN NATIONAL BANK 150	Agency—Burke Dowling Adams, Inc.
THE CITY OF LONG BEACH 98	Agency—Patch & Curtis Adv. Agency, Inc.
CLARAGE FAN CO. 96	Agency—McLain & Assoc.
J. L. CLARK MFG. CO. 114	Agency—Walde & Briggs, Inc.
CLEVITE CORP. 83	Agency—Duffy, McClure & Wilder, Inc.
CLUES (CLASSIFIED ADVERTISING) 198	Agency—Commonwealth Services, Inc.
CONSUMERS POWER CO. 78	Agency—Michigan Service, Inc.
CONTINENTAL GIN CO. 126	Agency—Sparrow Adv. Agency
CONVAIR, DIV. OF GENERAL DYNAMICS CORP. 3rd Cover	Agency—Buchanan & Co., Inc.
THE COOPER-BESSEMER CORP. 106	Agency—The Griswold-Eshleman Co.
CUNNINGHAM-LIMP CO. 99	Agency—Forrest U. Webster
DAVIDSON CORP. 150	Agency—Philip L. Ross Co.
DE LAVAL SEPARATOR CO. 93	Agency—Doubt & Co., Inc.
DRAYO CORP. 130	Agency—Ketchum, MacLeod & Grove, Inc.
DUNHAM-BUSH, INC. 182	Agency—William Schaller Co., Inc.
EASTMAN KODAK CO. 84-85	Agency—J. Walter Thompson Co.
THE FIRST NATIONAL BANK OF CHICAGO 175	Agency—Foote, Cone & Belding
FORD MOTOR CO. 28-29	Agency—J. Walter Thompson Co.
FORT WAYNE CORRUGATED PAPER CO. 12	Agency—Doremus & Co.
FULLER MFG. CO. 141	Agency—Curts, Quinlan, Keene & Peck, Inc.
GARDNER DENVER CO. 11	Agency—The Buchen Co.
GAYLORD CONTAINER CORP., DIV. OF CROWN ZELLERBACH CORP. 78	Agency—French & Shields, Inc.
GENERAL TELEPHONE SYSTEM 173	Agency—E. B. Humphrey, Alley & Richards, Inc.
GEORGIA DEPT. OF COMMERCE 72	Agency—Eckhardt & Stigl
B. F. GOODRICH INDUSTRIAL PRODUCTS CO. 3	Agency—The Griswold-Eshleman Co.
GOODYEAR TIRE & RUBBER CO., INC. 113	Agency—Kudner Agency, Inc.
GUARANTY TRUST CO. OF NEW YORK 87	Agency—Albert Frank-Guenther Law, Inc.
HARNISCHFEGER CORP. 31	Agency—Hoffman & York, Inc.
HARTFORD FIRE INSURANCE CO. GROUP. 182	Agency—Marshall & Pratt Div. of McCann-Erickson, Inc.
THE HOME INSURANCE CO. 87	Agency—Albert Frank-Guenther Law, Inc.
INGERSOLL MILLING MACHINE CO. 132	Agency—Fuller & Smith & Ross, Inc.
INTERNATIONAL NICKEL CO., INC. 87	Agency—Marshall & Pratt Div. of McCann-Erickson, Inc.
JONES & LAUGHLIN STEEL CORP. 44	Agency—Ketchum, MacLeod & Grove, Inc.
KIRK & BLUM MFG. CO. 108	Agency—Baer, Kembel & Spicer, Inc.
LIBERTY MUTUAL INSURANCE CO. 58	Agency—Batten, Barton, Durstine & Osborn, Inc.
LIGHTOLIER, INC. 96	Agency—Alfred Auerbach Assoc.
P. R. MALLORY & CO., INC. 169	Agency—The Aitkin-Kynett Co.
MARCHANT CALCULATORS, INC. 127	Agency—Foote, Cone & Belding
MARKEM MACHINE CO. 84	Agency—Culver Adv. Inc.
McGRAW-HILL BOOK CO., INC. 144, 151	Agency—Battell, Barton, Durstine & Osborn, Inc.
METALS & CONTROLS CORP. 196	Agency—Sutherland-Abbott
SPENCER THERMOSTAT DIV. 196	Agency—Sutherland-Abbott
METROPOLITAN OAKLAND AREA COMMITTEE 85	Agency—Hyder & O'Leary, Inc.
MINNEAPOLIS-HONEYWELL REGULATOR CO. 70	Agency—Foote, Cone & Belding
MORSE CHAIN CO. 170	Agency—Brooke, Smith, French & Dorrane, Inc.
NATIONAL BLANK BOOK CO. 90	Agency—Culver Adv. Inc.
NATIONAL CASH REGISTER CO. 193	Agency—McCann-Erickson, Inc.
NATIONAL STEEL CORP. 100-101	Agency—Campbell-Ewald Co.
NEW YORK LIFE INSURANCE CO. 145	Agency—Compton Adv., Inc.
NEW YORK & PENNSYLVANIA CO., INC. 88	Agency—O. B. Tyson & Co., Inc.
NICKEL PLATE ROAD 172	Agency—Fuller & Smith & Ross, Inc.
NORFOLK & WESTERN RAILWAY CO. 138	Agency—Houck & Co., Inc.
NORTON CO. 99	Agency—James Thomas Chiray Co., Inc.
THE OHIO CRANKSHAFT CO. 24-25, 86	Agency—Cart Liggitt Adv., Inc.
OLIN MATHIESON CHEMICAL CORP., ALUMINUM DIV. 185-186	Agency—D'Arcy Adv. Co.
OLIVETTI CORP. OF AMERICA 186	Agency—Cleary Adv., Inc.
PHelps Dodge COPPER PRODUCTS CORP. 41	Agency—Compton Adv., Inc.
PITTSBURGH CORNING CORP. 168	Agency—Ketchum, MacLeod & Grove, Inc.
RADIO CORP. OF AMERICA, (COMM., ELECTRONIC PRODS.) 188	Agency—Al Paul Lefort Co., Inc.
RAYONIER, INC. 8-9	Agency—Brooke, Smith, French & Dorrane, Inc.
RELIANCE ELECTRIC & ENGINEERING CO. 135	Agency—Wellman-Buschman Co.
REMINGTON RAND, DIV. OF SPERRY RAND CORP. 4	Agency—Paris & Pearl, Inc.
REO DIV., THE WHITE MOTOR CO. 106	Agency—Zimmer Keller & Calvert, Inc.
REPUBLIC STEEL CO. 5-7	Agency—Midmorn Fawsmith, Inc.
ROYAL-McBEE CO. 28-27	Agency—J. L. Roche & Co., Inc.
RUBATEX DIV., GREAT AMERICAN INDUSTRIES, INC. 82	Agency—Houck & Co., Inc.
SAN JOSE CHAMBER OF COMMERCE 156	Agency—Long Adv., Inc.
THE SCHELL LEATHER GOODS CO. 74	Agency—Straubens & McKim
SCIENTIFIC AMERICAN 146	Agency—Calkins & Holden, Inc.
SHELL CHEMICAL CORP. 2nd Cover	Agency—J. Walter Thompson Co.
SHERATON CORP. OF AMERICA 172	Agency—Batten, Barton, Durstine & Osborn, Inc.
SIMPLEX WIRE & CABLE CO. 68	Agency—Henry A. Loudon Adv., Inc.
SOCONY MOBIL OIL CO., INC. 22-23	Agency—Compton Adv., Inc.
STATE OF RHODE ISLAND (R. I. DEV. COUNCIL) 196	Agency—Bo Bernstein & Co., Inc.
STEELCRAFT MFG. CO. 148	Agency—Parson, Huff & Northlich, Inc.
STEWART WARNER CORP. 115	Agency—MacFarland, Aveyard & Co.
STONE CONTAINER CORP. 142	Agency—Living J. Rosenbloom & Assoc., Inc.
STROMBERG-CARLSON 16	Agency—The Rumrill Co., Inc.
STUDEBAKER-PACKARD CORP. 111	Agency—Burke Dowling Adams, Inc.
SYLVANIA ELECTRIC PRODUCTS, INC. 149	Agency—J. Walter Thompson Co.
TAYLOR FIBRE CO. 73	Agency—The Aitkin-Kynett Co.
TEXAS GAS TRANSMISSION CORP. 88	Agency—Bosell & Jacobs, Inc.
THIOKOL CHEMICAL CORP. 187	Agency—Kelly Nason Inc.
TINNERMAN PRODUCTS, INC. 119	Agency—Midmorn Fawsmith, Inc.
TRION, INC. 94	Agency—W. S. Walker Adv., Inc.
TUBE METHODS, INC. 116	Agency—John Miller
UNION PACIFIC RAILROAD 38	Agency—The Caples Co.
UNITED STATES RUBBER CO. 183	Agency—Fletcher D. Richards, Inc.
U. S. STEEL CORP. 28-21	Agency—Batten, Barton, Durstine & Osborn, Inc.
UNIVERSAL OIL PRODS. CO. 79	Agency—Sam J. Gally
THE UPSON CO. 174	Agency—Zimmer, Keller & Calvert, Inc.
WAGNER ELECTRIC CORP. 126	Agency—Arthur R. Mogge, Inc.
WHEELABRATOR CORP. 112	Agency—The Jaqua Co.
WHEELING CORRUGATING CO. 179	Agency—Cunningham & Walsh, Inc.
W. S. WHITE DENTAL MFG. CO. 104	Agency—Hazard Adv. Co., Inc.
WHITE, WELD & CO. 154	Agency—Albert Frank-Guenther Law, Inc.
WHITING-FLOWER PAPER CO. 178	Agency—The Brady Co.
WORRINGTON CORP. 34-37	Agency—Needham, Louis & Brorby, Inc.
ZENITH PLASTICS CO. 18-19	Agency—Batten, Barton, Durstine & Osborn, Inc.

ADVERTISING SALES STAFF

Midwestern Advertising Sales Manager

John P. Taylor—Chicago

Atlanta 3...Douglas C. Billian, 134 Peachtree St., N. W., Jackson 3-6951

Boston 16...Kent Bangs, Park Square Bldg., 2-1000

Chicago 11...John F. Boomer, Herbert M. Higgins, James E. McShane, Robert Sidur, 820 N. Michigan Ave., Mohawk 4-5800

Cleveland 16...William C. Bradford, John G. Cashin, Hanna Bldg., Superior 1-7000

Dallas 2...Gordon L. Jones, Vaughn Bldg., Hillcrest 7-1117

Denver 2...John W. Patten, Mile High Center, 17th Broadway, Alpine 5-2981

Detroit 28...Richard J. McGuire, C. C. Randolph, Peacocke Bldg., Woodward 2-1703

Los Angeles 17...Alfred L. Blessing, 1125 West Sixth St., MacArthur 9-2985

New York 36...Harold E. Chastie, John H. Glover, G. Robert Griswold, John F. Juraschek, A. T. Ostie, John H. Stevenson, 560 5th Avenue, Oxford 5-5800

Philadelphia 1...R. Bernard Alexander, David S. Janney, T. R. Johnson, Andrew B. Bunting, 17th & Sansom Sts., Bitthouse 6-9670

Pittsburgh 22...John R. Thomas, Henry W. Oliver Bldg., Atlantic 1-4765

St. Louis 3...James H. Cash, Continental Bldg., Olive 3-2200, Jefferson 5-4857

San Francisco 4...John W. Otterson, 62 Post St., Douglas 2-4693

England...Herbert Lester, McGraw-Hill Co., Ltd., 99 Farringdon St., London, E. C. 4

The Fed Makes a Good Start

We welcome the Federal Reserve's action in lowering the discount rate from 3½% to 3%.

In making this move, the nation's money managers recognized that the decline in business activity has gained momentum. This is evident in the decline of the Federal Reserve's own index of industrial production, which dropped to 142 for October, the lowest level in 15 months.

Despite the slowdown in business activity, and the worsening of business sentiment, the Fed's action took the nation by surprise. For it had not shown any willingness to ease money through its open market operations, even though the demand for credit had definitely slackened. On the contrary, the public statements of Federal Reserve officials have stressed the need for maintaining credit restraint in order to combat inflationary pressure.

There was no advance notice, no preparing of the market, for the change in the discount rate, so that the announcement itself had maximum psychological impact.

This is a step in the right direction. Yet the psychological impact will soon be dissipated if the Federal Reserve does not follow up its move by additional steps in the direction of ease.

The fact is that a lowering of the discount rate does not by itself make more funds available. Money is still tight, and banks are still hard pressed for funds. The drop in the cost of borrowing is much less important as a stimulant than would be a greater availability of credit.

We think that the monetary managers should follow up by abolishing the 2% additional reserve requirement that applies to banks in New York and Chicago. We urged this step before the Federal Reserve lowered the discount rate as a means of making more money available without engaging in a massive shift toward ease (BW—Nov. 2 '57, p204).

The psychological impact of the Fed's move is good as a starter. But now it should be followed with a definite step to ease the credit squeeze. This would be accomplished by removing the differential between New York and Chicago banks and those in the rest of the Federal Reserve cities.

The French Balk

France has chosen this moment, almost on the eve of a fateful NATO meeting in Paris, to indulge in a peevish outburst against the U.S.-British decision to supply arms to Tunisia. If the French persist, it is hard to see how the NATO heads of state can build the political and military unity the Atlantic Alliance so desperately needs today.

Some of the details of the Tunisian arms business

still are hidden in official secrecy. But the known facts support the contention of Washington and London that they had no choice but to supply arms to Tunisian Premier Bourguiba, who so far has proved to be one of the most pro-Western of Arab leaders. It was this or face the prospect of another Soviet-Arab arms deal and a rapid worsening of Western relations with all the Arab states.

The official French position was dictated by the exigencies of the political crisis in Paris, and the new Gaillard government's need to appease the rightwing opponents of an Algerian settlement.

In this situation, tolerance and patience are required from Washington and London. But neither we nor the British can afford to let French political weakness drag us into a disastrous policy toward the Arab world. Even at the risk of upsetting another French government and of having the NATO meeting postponed, we must stick by our basic position toward Tunisia. And we must press the French to put their relations with that country—and Algeria—on a sounder footing.

Here's a Place to Save

Keeping the budget balanced may not be the primary problem in meeting the new costs of national security. But keeping it as near as possible to balance must certainly remain paramount.

Cull a few sentences from Pres. Eisenhower's speech last week, and this comes into focus:

"All these new costs will reach a very considerable figure . . . in the federal government's civilian activities, we shall have to make some tough choices. . . . Savings of the kind we need can come about only through cutting out or deferring entire categories of activities. . . . Pressure groups will wail in anguish [this last, a thought added to the text originally given out to the press]."

One "category of activities" that presents the possibility of saving literally billions is the farm program. Over the years, its record is one of piling failure upon failure.

To eliminate the farm program—or to curtail it drastically—would indeed bring wails of anguish. Perhaps it would be necessary to maintain minimum support prices in order to protect farmers from disastrous prices. Maybe it would be necessary even to draw a line between the factory-type farm and the family-size farm, subsidizing the latter for loss of income.

Yet a return to free markets for farm produce certainly is required. And a time of fiscal emergency is probably the only politically feasible time to try.



THE CONVAIR JET 880 WILL OFFER YOU COMPLETE LUXURY...

Two on the Aisle!

Luxurious in every detail, the Convair Jet 880 will offer travelers in the new jet age *first-class two-abreast seating throughout!* In addition to unmatched luxury, the 880, with a cruising speed of 615 miles per hour, will be the *world's fastest jet passenger plane!*

CONVAIR

A DIVISION OF GENERAL DYNAMICS CORPORATION



This man is armed!

He has all the facts and all the figures about his company at his fingertips . . . because Burroughs Sensimatic's new Management Control concept puts them there, keeps them there! Yes, "live ammunition" to support his recommendations; to crystallize management decisions realistically.

Every businessman faces moments of decision when he must be armed with accurate, up-to-the-minute facts and figures. Figures on inventory, for example. On accounts receivable and payable. On sales. Production. Disbursements. Payroll.

And that's the job of the Burroughs Sensimatic accounting machine. Its advanced concept of Management Control can provide a comprehensive, consolidated picture of your current business operations at any time.

Do you need faster facts, indisputable figures? The Burroughs Sensimatic and its guide plan of Management Control is your answer. Just call our nearest branch office. Or write to Burroughs Corporation, Detroit 32, Michigan.



Burroughs Sensimatic

Burroughs and Sensimatic—TM's

